

ON THE NEGLECT OF  
PHYSICAL EDUCATION & HYGIENE.

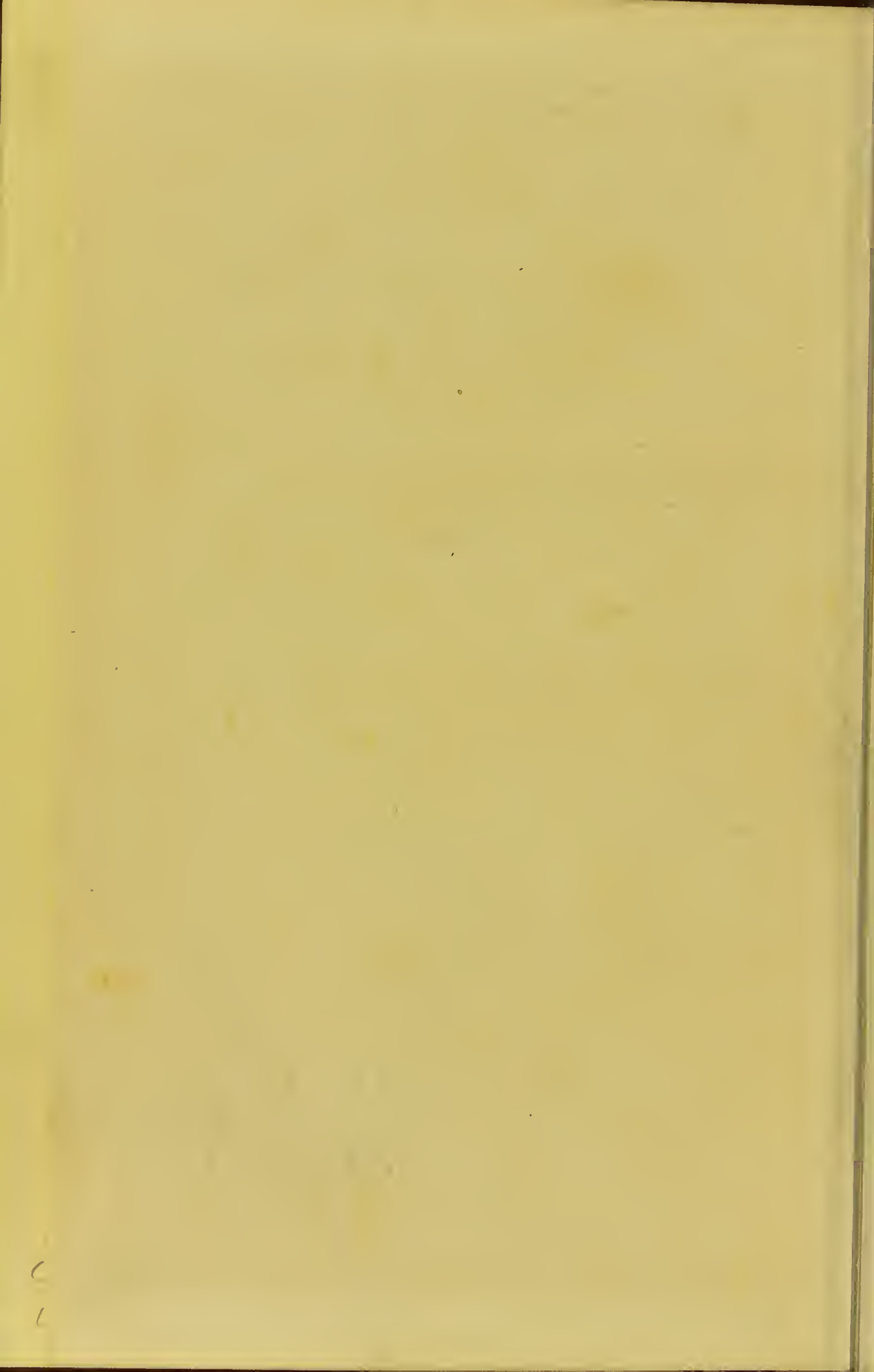


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ON THE NEGLECT OF  
PHYSICAL EDUCATION & HYGIENE

BY

PARLIAMENT & THE EDUCATIONAL DEPARTMENT,

AS THE

PRINCIPAL CAUSE OF THE DEGENERATION OF  
THE PHYSIQUE OF THE POPULATION,

OF THE EXCESSIVE INFANTILE & GENERAL MORTALITY,

AND OF MANY DISEASES & DEFORMITIES;

WITH AN ABSTRACT OF A REPORT ON THE PRESENT STATE  
OF PHYSICAL EDUCATION ON THE CONTINENT, BY

DR. ROTH'S SPECIAL COMMISSIONER;

*And Suggestions relative to the introduction of these neglected  
branches of National Education.*

*Mothias*  
By DR. / ROTH.  
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1879.

"After all, the first consideration of a Minister should be the health of the people. . . . If . . . the stature of the race every ten years diminishes, the history of that country will soon be the history of the past."—(Extracts from a Speech of the Right Hon. B. DISRAELI, the present Prime Minister, at the Free Trade Hall, Manchester, April 3, 1872—see page 8.)

"Neither the Educational Department, Parliament, the London nor any other School Board, are yet alive to the importance of Scientific Physical Education, although the *physique* of the people is deteriorating, as proved by the diminution of height since 1845, when, out of 1000 recruits, only 105 were under 5 ft. 6 in., while in 1873 more than three times as many, namely, 364, were under that height, and consequently the standard of recruits was necessarily and gradually diminished to 5 ft. 4½ in., and the maximum of age increased from 25 to 30."—(*Paper on Excessive Infant Mortality and Model Nursing.*)

According to the views of the Prime Minister, the history of England will soon be the history of the past.

THE PRESENT MINISTRY TOOK OFFICE WITH A SANITARY PROGRAMME, WHICH AS YET (according to the *Times* of Oct., 1878) THEY HAVE DONE LITTLE TO FULFIL.

## INTRODUCTION.

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"It is not the right, it is the duty, the bounden duty of whoever has a thought, to publish it for the common good."

"Whatever you know to be useful, good to be known by every one, you cannot conscientiously keep to yourself."

"To speak is well, to write is better, to print is best."

P. L. COURIER.

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£100,000, that is, one hundred thousand pounds sterling, *are spent annually*, by consent of Parliament and of the Vice-President of the Committee of Council on Education, *on teaching children to sing* in elementary schools.

*How badly this large sum*—the twentieth part of the whole sum which is spent on education in general—*has been applied*, is proved by the official report of H.M.'s Inspector of Instruction in Music. Mr. Hullah reports that "*the practice of singing by ear is not only mischievous* considered in relation to future musical culture, *but is absolutely unnecessary*, because *singing by ear is analogous to teaching children to draw by means of transparent slates*. In *neither case* are the children's *better faculties* brought into healthy operation. Their *lower or imitative faculties* are excited in action. The *reasoning faculties* are almost entirely neglected." The inefficiency of teachers, and incapacity of school inspectors to check the methods of instruction, are the principal causes that, Mr.

Hullah says, "the present method of teaching singing from a musical point of view is a mere sham, and that it is a costly one is notorious."

Probably owing to this official report, Lord George Hamilton, the present Vice-President of the Committee of Council on Education, told the House of Commons last session that *Mr. Hullah had been directed to visit the principal cities in Europe, and ascertain the methods employed for teaching singing to children in elementary schools, and that it was proposed to create a National College of Music.*

The three preceding officially reported facts have induced me once more, and at my age probably for the last time, to call the attention of the authorities and the public to the introduction of Scientific Physical Education, including Hygiene, into all schools. Singing is only a small part of Physical Education; and if £100,000 can be spent on this part alone, it is high time that Scientific Physical Education and Hygiene should be made general.

As Parliament and the various Governments as represented by the Educational Department have hitherto paid scarcely any, or at any rate only very little attention to the branch of education I and others are advocating, and as the authorities have not found it worth while to inquire what are the best methods of teaching Scientific Physical Education on the Continent, I sent abroad, towards the end of the year 1876, a medical man acquainted with this science, in order to report what the Continental Governments are doing for this branch of national education.

Through the kindness of Mr. Butler-Johnstone, late M.P. for Canterbury (who in an able speech in 1875 brought the



cause of Physical Education before Parliament—see page 3), my Commissioner obtained introductions to several of our ministers and ambassadors abroad, especially Sir Saville Lumley, Lord Odo Russell, and Sir A. Buchanan ; by their kind intervention, their Excellencies the Ministers of Education, M. Delcour in Brussels, Dr. Falk in Berlin, and Herr von Stremayer in Vienna, have officially answered my series of fourteen questions relative to Physical Education, and gave my Commissioner every facility for visiting the training institutions specially devoted to this important branch of education, and for being present at the lessons given in many schools.

It is my duty to make use of this occasion in order publicly to thank all the gentlemen I have named, as well as all the others whose names are given in the abstract of my Commissioner's report, for their kindness in assisting the inquiries of a private physician, who undertook them in the public interest.

The aim of this pamphlet is to show—

That *Parliament*, the *Vice-President of the Committee of Council on Education*, and several scientific societies have been in vain appealed to during the last five-and-twenty years, to introduce a branch of education, the ignorance and neglect of which considerably contribute to the PROGRESSING DEGENERATION OF THE PHYSIQUE OF THE POPULATION, to the great infantile and general mortality, to the increase of scrofulous, consumptive, and many school diseases, to the larger number of spinal and other deformities, even to THE NECESSITY OF LOWERING THE STANDARD of height for recruits, and to the greater expenditure of training them during a much longer period ;

further, to the increased expenses for hospitals, workhouses, and higher poor- and police-rates.

To point out the present defective state of Scientific Physical Education, including Hygiene, in English schools, with its bad effects.

To make suggestions for better methods of introducing Physical Education according to the present state of this science, and to name the consequent advantages.

The official answers of the Belgian, Prussian and Austrian Ministers of Education to my questions, and a short account of the present state of Scientific Physical Education in Sweden, Saxony and other countries, as well as an abstract of my Commissioner's (Mr. Bernard Roth, F.R.C.S.) Report on Physical Education in Continental Schools, are published in order to prove what other Governments are doing for Physical Education, which is so much neglected in Great Britain.

M. ROTH.

48, Wimpole Street, London.

January 1879.

## NEGLECT OF PHYSICAL EDUCATION AND HYGIENE BY PARLIAMENT.

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*The attention of Parliament* has been repeatedly directed to the importance of Physical Education and Hygiene ; but hitherto no grant has been given by the House for this educational branch, which is as important as reading, writing, and arithmetic.

Lord Eleho, as an advocate of the volunteer movement, was, as far as I know, the first who, in June 1862, spoke of the necessity of Physical Education, for the purpose of enabling every man to be a defender of the country. Lord Eleho moved—

“That the physical, moral, and economical advantages arising from a system of physical training have been clearly shown in evidence before the Royal Education Commission.

“That it is expedient for the increase of the bodily as well as the mental aptitudes of children for civil, industrial, as well as for possible military service that encouragement and aid should be given for the extension of the practice of systematised gymnastic training.”

He spoke of the great economical, social, and educational benefit it would confer on the people ; it was not only in the interest of the volunteer movement that he brought his motion before the House, but it was especially with regard to the necessity of physical training for the pauper population of the country that he wished to call the attention of the House. Amongst the advantages of physical training, he mentioned that “the sailor boys from the pauper workhouses of London got higher wages when they went to sea, than sailor boys two years older coming from seaport towns ; and one captain had declared he would give any money to get more of them, because they were so well trained.” The



evidence before the Royal Commission on Education went to prove that the trained schoolboys were prompt and punctual as compared with the other boys; and it was calculated that if this training were adopted in all the schools, *one-fifth* would be added to the value of the labour of the country. The boys, moreover, were rendered more apt, disciplined, and obedient. He asked for an hour and for one penny per week, and thought that this sum might very properly be spent by the ratepayers, or whoever else would have to pay it. He trusted that the House would not hesitate to stamp with its approval the system which he advocated.

Mr. Lowe objected to the idea that it was the duty of the Privy Council *to devise means, in addition to the existing education grant, to promote the teaching of any thing, because it might be deemed useful*. This idea he must altogether repudiate. *Although* Mr. Adderley saw no reason why the Privy Council should not give grants for the encouragement of physical training in all schools aided by the State; especially as the results would be highly important in a physical, intellectual, and moral point of view; *the resolution was negatived without a division*.

Mr. P. A. Taylor, M.P. for Leicester, is the second who asked that Physical Education should form a branch of school education, in the interests of the defence of the country. I find in Hansard, vol. 222, p. 1409, the following: "House of Commons, March 8th, 1875. Mr. P. A. Taylor (on Sir W. Lawson's motion for a reduction of the Land Forces). . . . He would endeavour to increase the physical force and strength of the whole population, superadding such an amount of military training as would make all the nation rapidly effective in case of necessity, *by requiring some amount of Physical Education and Gymnastic Exercise as a branch of national education*."

The same hon. member, in a speech to his constituents (Feb. 7th, 1876), said: "I believe every man owes a duty to his State, to enable him to take his share in defending that State, if the necessity should arise. *I believe it would be a most healthful and useful thing that Physical Education and*

*Training should begin at an early age, as in Switzerland. I would have Physical Education a branch of the elementary education in our schools, as much as reading and writing, and have it carried on in after years with more training, and something of elementary military training. Every man should know how to fire a rifle, and be more or less able to act in combination with large masses. A healthful mind in a strong body makes a good citizen."*

In July 1875, an interesting speech on Physical Education was delivered in the House of Commons by Mr. A. H. Munro Butler-Johnstone, late M.P. for Canterbury. The following notes are extraets from this speech :—

"I wish to call the attention of the House to the desirability of introducing *Physical Education into the elementary Government schools of the country*. I think it is time that *something of the sort were done*. When the education of the people of this country was first seriously undertaken, so many difficulties—soeial, religious, and finaneial difficulties—confronted its first promoters, that it was not to be expected that they should burden themselves with more than they could manage, and they wisely confined their attention to the inculcation of reading, writing, and arithmetic. But these early difficulties are now happily surmounted, and universal compulsory edueation is fairly established in the country. The time seems therefore arrived when we may ask ourselves whether something essential has not been omitted, and if we think that it has, then with as much speed and as small a cost as possible, to endeavour to repair the omission.

"Now, taking all the wants of the people of this country into consideration, *I think it may fairly be maintained that Physical Education is at least as necessary as intellectual education; in some respects more*. In all these cases where physieal power is impaired by disease and neglect, and by ignorance of the elementary rules of hygienc, some knowledge, some elementary knowledge of these laws, with practical rules dedueed from these laws, is at least as neecessary as reading, writing, and arithmetic. But I do not wish to put Physical Education into competition with these subjects; it is *not a rival but*

*an auxiliary, and if rightly understood, and rightly and wisely applied, a very valuable auxiliary. (Hear, hear.)*

“Now, no one can have studied the statistics which I am about to lay before the House, without being convinced that all is not satisfactory in the physique of the people of the country. (Here the hon. member referred to the data mentioned in pages 15—23, and to the progressing degeneration of the physique of the population.)

“It is scarcely necessary to dwell on the advantages which would result to the country from improving the physique of the population. *Increased physical power means increased value of productive work; a decrease in depravity and disease means a decrease in poor rates and police rates, for ill-health and disease are too often causes of misery, poverty, and crime.* But it is so obvious that the sum total of the happiness and well-being of the community would be augmented if disease, mortality, and depravity were diminished, that it seems like an insult to people’s understandings to dwell on these obvious advantages, and I prefer asking the attention of the House to the question of the practicability of attaining these desirable results.

“*Now what is Physical Education? Unfortunately gymnastics, drill, athletics, and what goes in gentel girls’ schools by the ambitious title of ealithenics, are too often jumbled up in people’s minds under the common appellation of Physical Education, and when one talks of introducing Physical Education into boys’ schools, the drill sergeant rises up before men’s eyes as the embodied emblem of Physical Education.* Now no one, sir, has a greater respect than I have for the drill sergeant. He is a great, a useful, and even a solemn institution. I should like to see every able-bodied man in England pass through his reforming hands. But that is another and a totally different question from the one which I am discussing. *You only degrade Physical Education, and defeat the very object which you wish to attain, of preparing the whole male population for military service, by calling in prematurely the aid of the drill sergeant, in the case of children who require a whole course of preparatory training in order to make them of the best*



*use in the drill sergeant's hands. You must work your cotton into yarn before it can be woven into cloth.*

*"By Physical Education I distinctly mean the inculcation of some sound, though elementary, principles of hygiene, combined with the practice of simple, though scientifically devised, exercises founded on sound physiological and anatomical principles. Now these two things ought to go together. Sound theory and wholesome practice are here, as in everything else, closely connected together. (Hear, hear.) With reference to the first branch, I hardly think its utility will be contested.*

*"Among otherwise well-educated people, such unfortunate ignorance on the subject of hygiene prevails, that we cannot be surprised if in the masses of the people the grossest and most unfortunate delusions on the subject are rife.*

*"It is all very well passing Public Health Bills, Pollution of Rivers Bill, and Food and Drugs Bills—an antecedent condition to the utility of all such measures is that their machinery should be loyally and willingly worked by people possessed of the conviction of their value and utility. (Hear, hear.) Now the value of fresh air, pure water, and wholesome food, is scarcely appreciated at all by the great majority of the people, and until you have opened their eyes your labour will be more or less thrown away. With reference to the second branch of my definition, I think I can best illustrate my meaning by referring to what other nations have done on the subject. (The hon. member, after mentioning what foreign Governments have done (see page 25, and Report of Mr. Bernard Roth) in the cause of Scientific Physical Education and School Hygiene, continued—)*

*"I wish now to call the particular attention of the House to the case of Saxony. Saxony is a manufacturing country, and here, as in the manufacturing districts of Prussia, it was found that there was such a deterioration of physique that the numbers in the conscription lists did not keep pace with the increase of the population. But since Physical Education had been made compulsory this falling off has been arrested and no more complaints have been heard. (Hear, hear.) I think this fact is well worthy of the consideration of a manu-*

facturing people like ourselves. Indeed, go into the manufacturing districts and what do we see? little children whose quick brains and stunted frames seem to require rather physical than intellectual fostering, and where Physical Education ought scarcely to hold a secondary place in any wise system of education. Now contrast what has been done by other nations with what we have been doing in this respect.

“EXCEPT A FEW UNSCIENTIFIC ATTEMPTS AT DRILL, ABSOLUTELY NOTHING HAS BEEN DONE FOR THE PHYSICAL EDUCATION OF THE PEOPLE OF THIS COUNTRY.

“One reason of this undoubtedly is, that in no country in the world is so much done in the way of athletics and outdoor sports as is done in England. But I would call the attention of the House to this fact, that it is not among the classes who habitually practise athletic sports that I am especially advocating the introduction of Physical Education. There are our public schools, our higher and middle-class schools, the universities and colleges of the country. But where are the athletic sports in the crowded alleys of our large towns? *It is no answer to the complaint that large classes are deprived of the advantages of Physical Exercises, to say that other classes are devoted to those exercises.* (Hear, hear.)

“The fact is, England is a nation of contrasts. Side by side with vast accumulations of wealth there are ugly patches of misery and wretchedness. Side by side with splendid physical development there is no Physical Education at all. It is to remedy this state of things, to raise the physical level of the whole population, that I am advocating to-day the cause of Physical Education in the schools of the country. *Before I sit down I wish to call the particular attention of the House to an experiment, on a small scale, of this very thing which I am advocating, which has been tried through the public spirit of an eminent London physician, Dr. Roth, of Wimpole Street, who has devoted so much attention to this subject, and with remarkably successful results. Dr. Roth instructed gratuitously a number of female teachers who had been sent to him by the Women's Educational Union and*

other societies, by giving them lectures and teaching them Ling's free educational exercises; and after a course of a few months they were enabled to instruct their schools in what they had learnt; and at the present moment some 400 or 500 girls are receiving physical training through this public spirited movement on the part of Dr. Roth, and what is important to note is that these teachers write to Dr. Roth and tell him that they find their efficiency as teachers in other respects decidedly increased by the physical training which they are able to give their pupils." (Hear, hear.)

Lord Sandon, replying to the observations of Mr. Butler-Johnstone, assured him that the Government were desirous of doing all they could to promote Physical Education in elementary schools, and *that the Government had done all that could be expected of them for Physical Education, by taking steps to substitute MILITARY drill for ordinary school drill.*

If the Educational Department had known that during the last fifteen years a systematic course of gymnastics, although not of a scientific kind, has been introduced into the English army, because the military authorities have been convinced that *military drill is not sufficient for the harmonious development of the body*, the Vice-President of the Committee of Council on Education, who represents the Minister of Education, would certainly not have accused publicly the Government of such gross ignorance of the present state of scientific Physical Education and Hygiene as is implied in the few words, "*the Government has done all that could be expected of them, by taking steps to substitute MILITARY drill for ordinary school drill.*"

The present Prime Minister, as Mr. Disraeli, advocated, in a speech at the Free Trade Hall, Manchester, April 3, 1872, the cause of sanitary legislation. I extract the following from his speech, as reported in the *Times*:—

"In attempting to legislate upon social matters, the great object is to be practical. I think public attention as regards these matters ought to be concentrated upon *sanitary legislation*. That is a wide subject, and if properly treated, comprises almost every consideration which has a just claim upon



legislative interference. Pure air, pure water, the inspection of unhealthy habitations, the adulteration of food—these and many other kindred matters may be legitimately dealt with by the legislature. . . . I cannot impress upon you too strongly the conviction of the importance of the legislature and society uniting together in favour of these important results. A great scholar and a great wit, 300 years ago, said that in his opinion there was a great mistake in the Vulgate, which as you all know is the Latin translation of the Holy Scriptures, and that instead of saying ‘*Vanitas vanitum, omnia vanitas*,’ the wise and witty king said really, ‘*Sanitas sanitatum, omnia sanitas*.’ It is impossible to overrate the importance of this subject. After all, *the first consideration of a minister should be the health of the people*. A land may be covered with historic trophies, with museums of science and galleries of art, with universities and libraries; the people may be civilized and ingenious; the country may be even famous in the annals and action of the world; but if the population every ten years decreases, and the *stature of the race every ten years diminishes, the history of that country will soon be the history of the past.*”

Notwithstanding the danger the Prime Minister pointed out, that if the stature of the race diminishes, the history of that country will be the history of the past, *it is my duty to mention that the stature of the English race has in fact diminished, and that in consequence the authorities were obliged to reduce last year the standard of height in the English army.*

### NEGLECT OF PHYSICAL EDUCATION AND HYGIENE BY THE EDUCATIONAL DEPARTMENT.

The attention of the Educational Department has been in vain directed to the necessity of the instruction of scientific Physical Education. Twenty-four years ago a pamphlet on the subject was addressed in the form of a letter to Lord Granville, then Vice-President of the Council on Education. The late Baron Bunsen, at that time Prussian Ambassador in London, was kind enough not only to revise this pam-

phlet, but to bring it specially before the notice of Lord Granville. The result was that I had an interview with Mr. Lingen, at that time First Clerk in the Educational Department, to whom I explained my views on the subject. Further, the Rev. Mr. Temple, now Lord Bishop of Exeter, then Head Master of Kneller Hall, the only Government Training College, was requested to see me. After having given him the details of my plan for introducing Physical Education and Hygiene in the Training College, he told me that the future schoolmasters had already too much to do, and that there was no time for teaching scientifically how to develop the bodily faculties and how to preserve bodily health. *This was my first official failure.*

In 1869, the Right Hon. Mr. Forster, as Vice-President of the Council, spoke thus in a public speech :—

“If education is to be national, compulsory and free to the poor; if England is to keep pace with other countries, and if it wishes to maintain the glory of its country, it can only be done by helping to make each individual *stronger*, and increasing his culture. They cannot afford to let any talent lie dormant; and they must call it out and give it opportunity to rise, because *ignorance* is weakness, and weakness means disease, pauperism and crime.”

This beautiful passage about the necessity of making every individual *stronger*, and not to let any talent lie dormant, induced me in 1870, when the educational question was before Parliament, to write and dedicate a pamphlet (“A Plea for the Compulsory Teaching of the Elements of Physical Education in the National Schools”) to the Right Hon. W. E. Forster, Vice-President of the Council. By the kind intervention of Mr. Jacob Bright, M.P., Mr. Forster accepted the dedication: whether he ever read the pamphlet, in which I advocated the claims of Physical Education to rank with reading, writing and arithmetic, I am unable to say. I know only that nothing has been done for the obligatory introduction of Physical Education and Hygiene by the Right Hon. member. *This was my second official failure.*

Encouraged by the present Prime Minister's speech (mentioned above), I tried to bring the subject before Lord Sandon, the late Vice-President of the Council, partly through the kind intervention of Mr. Butler-Johnstone, and partly by the assistance of the Hon. Mr. Yorke, both of whom have shewn much interest in the cause of Physical Education and Hygiene. *This was my third official failure.*

Unhappily, the Vice-President of the Council on Education is appointed as a substitute for an Educational Minister (an office which does not exist in a country supposed to be among the most highly civilized), without previously having had any opportunity of making himself acquainted with the details of educational matters; he has, besides, the duty of defending the various ministerial measures in Parliament, and has to issue all Orders in Council which refer to the registration of the importation of foreign cattle, and the removal from place to place of English cattle, with a view to prevent cattle disease.

These various duties make it impossible for the Vice-President to attend to the Hygiene and Physical Education of the millions of children who are yearly educated in School Board and other schools.

The excessive mortality of children is not yet considered as important as a similar mortality of cattle; the degeneration of the physique of the population in the manufacturing districts, *the necessity of diminishing the standard of height in the army*, and of training the recruits for double the time required if the physique had been previously developed at school, the increase of spinal deformities, short sight, and many chest and school complaints, *are all due to the neglect of Scientific Physical Education and Hygiene in schools*; there is no hope for improvement as long as the Educational Department is not convinced of the importance of the subject I and others are advocating, in the interests of the State and of all classes, especially of the working and poor ones.



## THE NEGLECT OF SCIENTIFIC PHYSICAL EDUCATION AND HYGIENE BY LEARNED SOCIETIES.

The British Association for the Advancement of Science, to whom the public and the Government look as the advisers, leaders and pioneers in science, must also be mentioned as contributing to and keeping up the ignorance of Physical Education and Hygiene, notwithstanding that their attention was directed to this subject in 1855, at their meeting at Glasgow, by the author of this paper. Mr. George Combe, who did so much for the advancement of education, advised me not to go to Glasgow, because, as one who does not belong to their clique, he was sure that I would not succeed in enlisting the sympathies of the Association. Notwithstanding his good advice, I went there, and met with opposition to the reading of my paper; it was only owing to the kind effort of Sir Charles Lyell, who was one of the Vice-Presidents at the Glasgow meeting, that I was permitted to read the paper; but the Secretary of the Physiological Section refused the insertion of the paper, as well as of the abstract, in the "Transactions."

A proof that the British Association has not much changed twenty-one years later, is the following: In 1876 an excellent paper on Physical Education and Hygiene in Schools had been read before the Economic Section of the Association, by Mr. Jolly, the only one of H.M. Inspectors of Schools who has fully entered into and energetically advocated this important branch of education. An unanimous minute was adopted by the Committee of the Economical Section, recommending the General Committee *to press on Government the view of fostering Physical Education by giving grants for its teaching, and of making Physical Training and Hygiene necessary elements in the professional training of teachers.* This enlightened opinion, however, *did not pass the Committee of Recommendations: another proof of the general ignorance on the subject;* an ignorance, at any rate, shared to a great

extent by the British Association for the Advancement of Science in 1876.

Almost all the thirty-three training colleges existing in Great Britain, as well as all the school boards and committees of voluntary schools, have hitherto more or less entirely neglected Physical Education and Hygiene: the so-called school drill and military drill cannot be considered as a substitute for the science of harmonious development of all the physical and mental faculties.

Last year the papers published a scheme of the various sciences required by teachers of the London School Board: neither Physical Education nor Hygiene could be found in the proposed scheme. The College of Preceptors have no examiners in these educational branches, which should be obligatory in all training colleges, in all primary, secondary, and, when established, in tertiary schools; but as long as the teachers are paid only for reading, writing, and arithmetic—as long as Government does not insist upon Physical Education and Hygiene being obligatory studies, which are to be paid for in the same manner as the three R's, there is not any reasonable hope for introducing these branches of education,—most useful not only to every single individual, but, in a politico-economic view, to the State and the whole nation.

The Society of Arts have at least the merit of thinking of the physique of the people; but, contrary to their usual practice of advocating the latest improvements and the best methods of art and science instruction, they have been satisfied with the advocacy of the usual school drilling, and erroneously believe, in the same manner as the late Vice-President of the Council, that the change of school drill into military drill is the *ne plus ultra* of Scientific Physical Education which can be desired.

Notwithstanding the Educational Department of the Government have allowed time for military drilling on the time-table, the Society of Arts have found out that even this *insufficient* substitute for Scientific Physical Education did not make much progress in schools; the Society appointed a

deputation to wait on the Commander-in-Chief, H.R.H. the Duke of Cambridge. Sir Henry Cole, one of the deputation, said : " Still, however, a great deal was required to be done, to get this introduced generally into the schools, notwithstanding the Educational Department allowed time ; previously the same department had permitted drawing to form part of a school curriculum they had laid down ; but no progress was made until the subject was specially placed under the Science and Art Department. So he believed would be the case with military drill, *unless* some other department could be made to take interest in it ; and it was with that view the Society of Arts desired to induce the Horse Guards to take it up."

Mr. Chadwick and Mr. Tuffnell spoke of the advantages of drill for school discipline, increased productive power in after life, &c.

General Eardley Wilmot asked, in the name of the Society, that the War Department may furnish *effective* instruction, insure its usefulness for *military purposes* by personal inspection, and pay the expense involved.

The Commander-in-Chief admitted the advantages of drill, and that it would aid in obtaining recruits for the Army ; but, independent of the expense, *there was, however, some difficulty in obtaining instructors, as non-commissioned officers, even for the Army, were not so readily obtained in sufficient numbers.*

I can but regret that the Society of Arts should not have first inquired what the latest improved methods of Scientific Physical Education are ; secondly, that they should have advocated only military drill, although the War Department has added a systematized course of gymnastics into the Army, because they are convinced that the military drill is not sufficient for the harmonious development of the physique ; thirdly, that they have, by advocating military drill, entirely forgotten that girls' physique is as important as that of boys ; fourthly, that they have not sent their deputation to the Vice-President of the Committee of Council on Education, to impress upon him the necessity of making Physical Education and Hygiene an *obligatory* part of elementary



education, and for which the teachers are to be paid, just as for reading, writing and arithmetic.

We hope that when the Council of the Society of Arts again discuss Physical Education, they will recommend the best methods of teaching it, not restrict themselves to the drill-sergeant, but choose teachers as well trained in Scientific Physical Education as they are in other subjects, and will not exclude the girls from sharing in this important branch of education, and will ask the Educational Department to pay for Physical Education and Hygiene as an obligatory subject of instruction.

#### OPINIONS ON THOROUGH EDUCATION, EXTRACTED FROM VARIOUS SPEECHES.

The following scraps on ignorance—on the necessity of first educating educators—on a *thorough* education, including the physical—and on the knowledge of the laws of health, are merely published as specimens of many similar assertions, proving that the number of advocates of a thorough education is large, but not yet sufficiently large for inducing Parliament to pay for it.

“A knowledge of the constitution of the human body, to elucidate *the laws of health*, especially with reference to cleanliness, ventilation, recreation and diet is godless, unless issued from the mint bearing the imprint of some denomination or sect. We must enable children to become acquainted with the laws of God regulating the material world, and to live in temperance, soberness, and chastity; to learn and labour truly to get their own living in any state of life to which they may be called.”\*—Mr. PENTECOST.

“If England was to maintain her present position among the nations; if she was to maintain her high character for order and civilization; if she was to maintain her pre-eminence for commerce, it would not be owing to her army,

\* To obtain all this, Physical Education and knowledge of Hygiene are required.—(*Note of the Author.*)



and certainly not to her poor-houses or gaols, but to her having a great, intelligent, and *well-educated labouring class*\*—that class upon whose intelligence, honesty, and sobriety the whole strength and existence of the kingdom depended.”  
—(SIR CHARLES RAWLINSON.)

Many children are taught by *unskilled* teachers, who themselves are but learners. Mr. Aldis, H.M. Inspector of Schools in Yorkshire, describes how *he has seen the children in infant schools sitting wearily on high benches, while a child of eleven taught them the letters from a large alphabet sheet before them; the lesson lasting three-quarters of an hour, and immediately followed by another.* Mr. Aldis was astonished that any capacity for learning remained in the children after being brought to a state of *torpor by weariness, confinement, fear, and close air.*

“The worst point of English elementary education is its *unscientific* character. The fault that the science of teaching is so little understood is not with the teacher, but with the inconclusive action of the national Government, which, while liberating the schools from the sects, have left thirty out of thirty-three training colleges under them; in some of which eleven hours a week is given to theology, to which must be added the hours spent in dusting and bed-making; we see how little time is left for study. *The education of educators is grievously defective.*† Recent events have shown that popular education is dear to the heart of the nation, and we trust that the time is not far distant when training *the educators shall be the work of the nation.*”—(J. ALLANSON PICTON, M.A.)

“*Ignorance of the subjects essential to health and long life is very often the cause of man’s abuse of his liberty of action;*

\* In proportion to the higher development of the physical faculties, the labouring classes will have more strength and productive power, and hygiene will contribute to greater sobriety.—(Note of Author.)

† As far as it is known, Scientific Physical Education and Hygiene do not yet form an obligatory study in any of the above-mentioned training colleges, and as long as the teachers are not instructed in this educational branch there is no hope for its introduction in the schools.—(Note of Author.)

therefore he should be instructed not only in the moral or religious law, but *in the laws of his physical organization*, in a habitual violation of which . . . men forfeit their right to count on health, happiness, and long life.”—(Dr. LORD, Med. Officer of Health, Hampstead District.)

“Our people are *ill* taught. Our children die at a rate which is shameful and disgraceful. Our people live in filth and disease.”—(GEORGE DAWSON.)

“Of the twenty millions of population in England, no less than four millions are in a state of crime, *ignorance*, misery, vice, and pauperism. The greater part of the vice and misery amongst the lower classes arises simply from *ignorance*; it is only by teaching those classes to help themselves that you will get a cure for the evil.”—(EDMUND POTTER, M.P.)

“Many of us know the fact, that an *educated* recruit learns his drill in half the time, and at less than half the expense incurred in training another who is wholly *ignorant*. A good education is the best preventative of crime. Men are quite as much degraded by *ignorance* as by vice.”—(Professor THOROLD ROGERS.)

“It is the right of every individual member of the community to find the means within his reach of fully developing his *physical*, mental, and moral capacities. The community has the right to insist upon every child being *thoroughly* educated; the child has the right to demand that the proper means of teaching should be provided for it.”—(Rev. A. STEINTHAL.)

“Nothing is more costly than *ignorance*, and nothing would return a greater profit than a thorough education.”—(Mr. WILSON, of Manchester.)

“The working classes have a right to demand that, if *the State should undertake* the education of their children, it should do it *thoroughly*.”\*—(Rt. Hon. Mr. COWPER TEMPLE.)

\* No education can be called *thorough* without Physical Education; therefore I beg to suggest that no voluntary or any other school should be considered efficient, or obtain any Government Grant, except Physical Education, including Hygiene, is one of the obligatory studies.  
—*Note of Author.*

“The mind ought never to be cultivated at the expense of the body, and Physical Education ought to precede that of the intellect, and then proceed simultaneously with it, without cultivating one faculty to the neglect of the other; for health is the *base* and instruction the ornament of education.”—(Spurzheim, “Elementary Principles of Education.”)

“*The age of childhood is consecrated by nature to those exercises which fortify and strengthen the body, and not to study, which enfeebles it, and prevents its proper increase and development. No custom is more irrational and cruel than that of some parents who exact of their children much intellectual labour and great progress in study. It is the tomb of their talents and of their health.*”—(TISSOT.)

“No man can have his mind well trained without his physique—no intellectual training can take place without previous physical training of the senses—moral training can only follow the intellectual, based on the physical.”—(M. ROTH.)

#### THE PROGRESSIVE DEGENERATION OF THE PHYSIQUE OF THE POPULATION IN GREAT BRITAIN PROVED BY THE FOLLOWING DATA.

1. The surgeon-major of the London Recruiting District said, a few years ago, after inspecting 25,000 recruits—“*I must candidly assert that the physique of the infantry is not up to the standard of our race.*”

2. Mr. Tuffnell, one of H.M. Inspectors of Union Schools, gave evidence *on the inferior stature and physique* of the children of the London (Union) Workhouse Schools.

3. Of 1000 recruits, after having accepted the shilling, 400 are rejected because they suffered from eye disease, small malformed chest, curvature of spine, varicose veins, varicocele, muscular tenuity, and other complaints.

4. Of 5567 boys, 4410 were rejected; they were under standard of chest, width, and under standard of height.—(Dr. ORD's Report in 1869.)



5. Of 530 candidates for railway employment, 201 were rejected; the chief cause of rejection was small malformed chest in 92 cases.—(Report of Medical Officers of Great Western and Associated Railways, 1862.)

6. Of 358 children under 15 years of age in a metropolitan suburban workhouse, 84, or 23.4 per cent., are affected with *chronic disease*.

Table showing percentage of the most frequent chronic affections in these 358 children.

Age under.	Number.	Scrofula.	Rickets.	Consumption.	Spinal Deformities.	Other Deformities.	Rupture.	Paralysis.	Other Chronic Diseases.
2	75	1.33	4.00	..	1.33	...	...	1.33	1.33
9	143	2.09	3.49	1.3	2.79	1.39	0.69	...	11.88
15	140	5.7	1.42	5.0	2.87	0.71	0.71	...	12.85

7. The prevalence of deformities among young girls *applying* for work at a large manufactory is thus described by the proprietor of the establishment in Nelson Street, Liverpool:—

“It is most distressing to stand at our counter on a Monday morning and see *the number of little girls deformed in their persons*, by being employed in nursing. I can pick them out in a moment, one shoulder is lower than the other, the neck awry, shuffling, walking gait.”—*All the Year Round*, Vol. 15, p. 39.

8. During my visits to girls' ragged schools, I have found MORE THAN 50 per cent. affected by deformities of the spine and limbs, by chest complaints, and strumous diseases; a very considerable amount of these complaints is also seen in those girls' schools of the middle and higher class, where constant cramming is going on, and no attention paid to the development of the bodily faculties; although the boys have the advantage of more school games, the round shoulders, the flat chest, headaches, weak and deformed spine and other ailments, are more frequent than the public in general admits.

9. Dr. Ferguson's evidence regarding the steady degeneracy of the factory population, and of the yearly increasing

number of children's physical unfitness for work, has produced a very bad impression on the public mind, and been commented upon by the medical and public press generally; Mr. C. Roberts, F.R.C.S., who was officially engaged in investigating the state of the factory children, says that Dr. Ferguson has overstated his case; notwithstanding this, I find in the letter of Mr. Roberts to the *Lancet*, 21st August, 1875, the following data, which will give an idea of the low state of the factory children, as well as of the London charity-school children, viz:—

That factory children have a disposition to flat feet,

To a relaxed state of the ligaments of the knee and elbow-joints.

That they do *not* compare favourably with agricultural children.

That they are short of stature,

They produce the impression on the mind of having bodies *too old* for their heads and ages.

That they have a general disposition to *knock knees*, while agricultural children have a disposition to *bow legs*.

That many have "old scars in the neck," considered sequelæ of eruptive fevers.

That in a large majority the gums were red and spongy.

That the development and condition of the teeth were very *unsatisfactory*.

*a.* They had a bad colour.

*b.* A bad shape, and were irregular.

*c.* The crowns of the teeth contracted, with serrated edges, and deep perpendicular grooves, as if a file had been drawn across them.

*d.* Caries existed very often, and usually in one of these grooves. (This state of the teeth proves some fault in the health, and inattention during the early stages of the development of the children.)

That the personal habits of the factory children contrast very unfavourably with those of the agricultural districts.

*a.* They are very dirty both in body and clothes.

*b.* The hair is unkempt, and

- c. Almost invariably swarming with lice.
- d. They had an irregular form of prurigo, with
- e. Marks of scratching on the chest and back, proving the existence of body lice.
- f. Few of the children were free from the marks of flea bites.

A somewhat stunted growth of the children was frequently observed.

A great difference of weight of factory children compared with agricultural children and children of public and middle class schools, is seen by the following table, published by Mr. Roberts in the same letter. *Average weight in pounds:—*

Age last Birthday.	I. London Charity Schools.	II. Factory Report, 1835	III. Factory Report, 1873	IV. Agricultural Children, 1873.	V. Public and Middle-class Schools, 1873.
9 years	51.63	51.76	58.72	60.02	61.98
10 years	54.53	57.00	62.74	65.29	67.20
11 years	58.32	61.84	67.92	71.01	74.19
12 years	62.80	65.97	71.06	75.00	78.98
No. of Observa- tions .....	1770	160	2958	800	1210

I here make use of Mr. Roberts's table, to show that the average weight of a child at the age of 9, 10, 11, and 12, is according to this table:—

I.	II.	III.	IV.	V.
56.32	59.14	65.11	67.83	70.58

This means that a London charity-school child is 13.76 pounds, and a factory child (in 1873) 5.47 pounds less in weight than a child in a public or middle-class school.

The following table shows the difference of weight of a London charity-school child in each single year,

INCREASE OF WEIGHT IN LBS.					
Age.	I.	II.	III.	IV.	V.
9	51.63	0.13	7.09	8.39	10.35
10	54.53	2.47	8.21	10.76	12.67
11	58.32	3.52	9.60	12.69	15.87
12	62.80	3.17	8.26	12.20	16.18



It is a very sad statistical proof that even the worst physical state of a factory child in 1835 and 1873 is *considerably better* than that of a London charity-school child, and that the difference of weight in comparison with a child of the public and middle-class school amounts to 10.35 pounds in the 9th year to 16.18 pounds in the 12th year.

From Mr. Roberts's data I have likewise prepared the following table, which shows the difference in weight of a factory child in 1873, as compared with the weight of the agricultural, public, and middle-class schools.

Age.	Factory Children, 1873.	Agricultural Children, 1873 Increase of	Public and Middle-class School Children, 1873. weight in lbs.
9	58.72	1.30	3.26
10	62.74	2.55	4.46
11	67.92	3.09	6.27
12	71.06	3.94	7.92

The weight of a factory child in 1873 is, according to the last table, 3.26 pounds less in the 9th year than a child of the same age in a public or middle-class school, and the difference of weight increases until it is 7.92 pounds in the 12th year.

10. In Mr. Jolly's paper, which he read before the British Association, the bad physique of the highlanders and lowlanders is thus described:—

“Every observing eye may note, in the street and at all public gatherings, the general stoop of our population, their narrow flattened chests, bent backs and spines, unequal shoulders, and other physical evils, besides abundant evidences, in look, colour, and gait, of the prevalence of more serious diseases, already spoken of. In my official work, these defects in the general physical bearing of our children are brought constantly under my notice; and the longer they are observed, the more deeply do they impress me with their painful reality.

“I lately observed some notable proofs of the neglect of

physical training among even the strongest and healthiest portions of our population. There is held, in Inverness, every year, a great wool market, at which are gathered a larger number than usual of the best specimens of strong, handsome, and healthy men.

“Many of these sturdy highlanders and lowlanders are splendid fellows, pleasant to behold, with the finest developments from head to heel, which would have gladdened the eyes of Socrates, so enamoured of physical beauty. Yet, moving amongst them, as I take pleasure in doing, to see the men and meet my friends, *one cannot but be impressed with the almost universal stoop, the unequal development of their broad shoulders and the compressed chests of these fine men, their want of ‘setting up,’ their ungainly walk, their ill-balanced arms and ill-poised heads, even with the broadest and strongest frames. These defects, so apparent in the street, are even more declared when they are seated at the ‘ordinary’ held in connection with the market, when their rounded shoulders and protruding heads are strikingly exhibited during the operations of the table; where, as I pointed out to a friend, a row of them, when viewed in line, is like the sloping side of a hill—so unlike are they in erect, free, well-poised bearing to a similar gathering of military men engaged in the same pleasant occupation, whose physical training has preserved them from, or cured them of, the same defects.*

“And if this is true of the finest examples of the men produced among our healthy highland hills, with the splendid capacities of their bodies, their nut-brown complexions, and clear keen eyes, what must be the state of our agricultural population, and, much more, of the masses of our cities, pent up in the poisoned air and debilitating influences so rampant there?

“These are facts, and they should be faced. They should rouse us from our callous indifference, and kindle in the hearts of at least the more intelligent and kindly amongst us, a keen desire to have the evils removed by the methods pointed out by the best authorities.”

11. The military authorities have been obliged to lower the *standard of height* of recruits for the army. This is the last proof I will quote of the progressive degeneration of the physique, although many more might be adduced.

If the present Prime Minister would remember what he said about the diminution of the standard of height in the speech from which I have quoted, and as THE PRESENT MINISTRY TOOK OFFICE WITH A SANITARY PROGRAMME, WHICH AS YET (according to the *Times* of October, 1878,) THEY HAVE DONE LITTLE TO FULFIL, we might perhaps expect that something may be done for the Physical Education and Hygiene in the primary and secondary schools.

#### NEGLECT OF PHYSICAL EDUCATION AND HYGIENE ONE OF THE PRINCIPAL CAUSES OF EXCESSIVE INFANT AND GENERAL MORTALITY.

*“The preservation of life depends upon careful attention to small things, and should be taught as part of common education.”*  
—(*Report of the Registrar-General.*)

As long as the teachers are not trained in the knowledge of this “attention to small things,” there is no hope for a diminution of the present excessive mortality, which is proved by the following facts.

1. The Registrar-General reports that 45 to 50 of all children born are in their graves before they are five years old. This large rate of mortality is in some localities still greater, according to the statistic data mentioned by Mr. E. Chadwick at the last public meeting of the Sanitary Institute.

2. In Dudley, Wolverhampton, and Stoke-on-Trent, 4549 children died, while the total sum of all deaths was 8656. This is a children mortality of 52.55.

3. The infant mortality in Birmingham is so excessive, that public meetings were convened last year to point out the means of counteracting it. As far as I know, the knowledge of Physical Education and Hygiene was not named amongst the preventive means.



4. According to Dr. Ballard's official report of 10th Dec., 1876, 402 died out of 489 infants received into the Institution, Carlisle Place, Westminster, which is attached to the Convent of the Sisterhood of St. Vincent de Paul.

5. 53 infants were admitted into the same institution since 1st January, 1875; 44 of these infants died in the institution.—(Same report.)

6. 44 out of 45 infants under twelve months of age, or  $97\frac{3}{4}$  per cent., died in the same Orphanage of the Sisterhood of St. Vincent de Paul.—(Mr. Fleming, at a Board of Guardians of St. George's Union, Hanover Square, Wednesday, 18th January, 1877.)

7. In Wolverhampton, forty years ago (in 1838), the death rate of children was 44 per cent.; in 1876 it was 49 per cent.—(Mr. E. CHADWICK.)

8. 120,000 persons die annually by *preventible* disease.—(*Registrar-General's Report.*)

9. £19,000,000 (that is, nineteen million pounds sterling) are yearly lost to the country, according to Dr. Farr's estimates, by preventible loss of 120,000 lives among children and adults. On an average every living person is worth about £158 6s.

10. I regret that the Registrar-General has not given us some data on the number of persons who are suffering from preventible disease without dying. We will assume that one person dies amongst 20 who are very ill: there must be at least 2,400,000 persons yearly suffering from preventible serious disease, who during a certain period are unable to work, and thus considerably increase the money loss caused by the 120,000 preventible deaths.

For further and more numerous facts regarding excessive infant and general mortality, I must refer to the many elaborate official reports of the Medical Officers of Health in all parts of the country.

OFFICIAL ANSWERS TO MY QUESTIONS BY THEIR EXCEL-  
LENCIES THE MINISTERS OF EDUCATION IN BELGIUM,  
PRUSSIA, AND AUSTRIA.

*Questions.*

1. What is the Government doing for Physical Education?

2. Is it obligatory?

3. What system is prescribed?

4. What books are recommended?

5. Who are the teachers? Where and how are they trained?

6. Is it an obligatory study for all future masters and mistresses in training schools?

7. How long does this instruction last? In which system are they trained? Which books are employed for the teachers?

8. Are the laws of health taught in the training colleges, in the elementary, secondary, and higher schools, and to what extent; which books on hygiene are recommended?

9. Are there special regulations concerning school buildings and their furniture, viz., chairs, benches, tables, light: the cubic and superficial space per child?

10. Are there special teachers of gymnastics, or must every teacher instruct in it?

11. Are there medical inspectors of schools? What are their duties? What and when have they to report?

12. Is there any attention paid to the position, dress and occupation of the pupils in schools?

13. How many hours a day are they in school, in the playground and in the gymnasium?

14. Are there any data on school diseases, myopia, etc.?

## BELGIUM.

*Official Answers to Dr. Roth's Questions by His Excellency  
the Belgian Minister of Education.*

(The original is in French.)

1 Q. By Order of Council of August 15th, 1846, the teacher was directed to keep a register of attendance, stating among other things whether the children admitted have been vaccinated. As for Gymnastics, the enquiry set on foot by the circular of 24th August, 1872, having shewn that the instruction in this branch left much to be desired, especially in the Primary Schools, the Government has taken the necessary steps to properly organize Gymnastic instruction, and make it obligatory in the Training Colleges for Teachers (Ecoles Normales Primaires).

2 Q. The law concerning Primary Schools has not yet placed Gymnastics among the number of compulsory subjects enumerated in Art. 6. The Government has taken no action with regard to private schools.

3 Q. Respecting the organization of a temporary course of Gymnastics for the use of the masters and mistresses now acting in Primary Schools, the accompanying pamphlet explains in detail the programme of Gymnastic instruction, as applied to all schools under Government.

4 Q. *Traité de Gymnastique de M. le Capitaine Docx. La Gymnastique de l'Ecole Primaire à l'Ecole Gardienne et aux Jardins d'Enfants, par L. F. Dries.*

5 Q. Gymnastics are taught by the schoolmasters and mistresses in the Primary Schools. Since 1876, temporary courses for their use have been organised during the vacations in three of the Training Colleges. Two hundred male and female teachers have up to the present time followed these Gymnastic courses, and have all obtained certificates stating that they are competent to give instruction in Gymnastics in the Primary Schools. The Government intends to continue these courses for several years, so as to provide as many schools as possible with capable Gymnastic teachers.



6 Q. The study of Gymnastics has been included among the branches in which examinations are held in the Training Colleges, and among the subjects with which the candidates ought to be acquainted are the rudiments of Anatomy, Physiology, and Hygiene. This measure was the object of a special decree, dated May 12th, 1875.

The study of Gymnastics is compulsory for all, as in the Training Colleges, without distinction of sex.

7a Q. During the whole of the three years' course at the Training Colleges.

b. The method of Captain Docx.

c. For the books employed, see Answer No. 4.

8 Q. A course of instruction in Hygiene is given in the Normal Schools. The authors recommended are: Dr. Møller, Dr. Bodart, Drs. Wéron and Warlomont.

9 Q. The accompanying volume contains the rules relating to the construction and furnishing of schools, as well as the plans adopted by the Government.

10 Q. Yes, in the Normal Schools. For the other schools, see Answer No. 5.

11 Q. Article 11 of the General Regulations of August 15th, 1846, directs that "In those places where the parish doctors receive a salary from the Bureau de Bienfaisance or from the town, they are expected to visit the public schools at least once a month, and after each visit to send a report of the pupils' health to the municipal authorities."

There is no other medical inspection of the Primary Schools, but a medical man is attached to each Normal School.

12 Q. Yes; and very strict directions are issued to the teachers on these points.

13 Q. The hours of study or recreation are regulated by each province independently.

Generally the classes begin at 8.30 a.m. and finish at 11 o'clock; they recommence about 1.30 and finish at 3.30 or 4 p.m.

In those districts where there are evening classes for adults, the afternoon classes end half an hour earlier.

It is impossible to say exactly how much time is given to Gymnastics, as this branch of instruction is still undergoing organization.

14 Q. No.

15 Q. In 1875, the number of soldiers drawn by conscription was 20,922 out of 41,690 inscribed. Out of these 1900 were rejected definitely, and 2556 temporally; making a total of 4457. Thus the proportion was about 210 per thousand.

There are no statistics specifying these defects.

## PRUSSIA.

*The Official Answers to Dr. Roth's Questions by His Excellency the Minister of Education refer only to Prussia, and not to the other German States.*

(The original is in German.)

1 Q. The Prussian school authorities provide for the physical education of children as follows:—

a. They require that in the arrangement of schools, drawing of plans, etc., regard should be had to fundamental sanitary laws.

b. That school children should receive instruction about the human body, and be taught what things are useful and what hurtful to it. Such instruction is given in all National Primary Middle Schools, preparatory institutions, and seminaries, in conformity to a "General Determination of Oct. 15th, 1872."

On the occasion of a conference of competent judges, held in the Ministry of Instruction, special regard was had to the teaching of natural history and the laws of health in the plan of instruction for the Higher Girls' Schools, and also in the Institution for the Higher Education of Young Men.

c. In addition, the Physical Education of children is provided for by means of systematised Gymnastics.

2 Q. Gymnastic instruction was formally recognized by a Cabinet Order of June 6th, 1842, as a necessary and indispensable part of male education, and included among the

subjects of national education. Gymnastie instruction was immediately introduced officially into the higher schools; in some it had been introduced already, with the approval of the proper authorities. By Ministerial Orders of 1860, Gymnastie instruction was extended also to the elementary schools. In *girls'* schools, Gymnastie instruction is not compulsory, though some parishes have made it so in their schools.

3 Q. By Royal Order of Feb. 28th, 1862, a guide-book of Gymnastic instruction was introduced into the Primary Schools and into the Training Colleges for Teachers. This guide contains, besides free and drill exercises, exercises on apparatus; and in the new guide, which replaced the above by Ministerial permission in 1868, these exercises on apparatus were essentially amplified.

4 Q. See Answer 3. No special books are recommended for the Higher Schools.

5 Q. For the Higher Schools, since 1851, teachers of gymnastics have been educated in the Royal Central Gymnastie Institution in Berlin. The course at this institution lasts six months. The pupils are also taught the elements of Anatomy, Physiology, and Dietetics, as well as so much of Surgery as might be required at the Gymnasium. Gymnastie teachers in the Higher Schools, who have not been to this institution, must prove their competency by passing a State-examination, which is held yearly according to a Decree of March 29th, 1866. The gymnastic teachers for Primary Schools are instructed in the Training Colleges for schoolmasters: special courses of gymnastic instruction, lasting four weeks, are also given at the Training Colleges in the several Provinces, to those national school teachers who are already performing their duties. For schoolmistresses, two examinations have been held yearly since 1875; but up to the present time (April 1877) these are only prepared by private instruction for these examinations.

6 Q. Instruction in Gymnastics and the Laws of Health is compulsory for those national schoolmasters who are educated in the Training Colleges.



7 Q. The course of instruction in the Prussian Training Colleges lasts three years, and practical gymnastics is taught throughout the course. Of late years the pupils have also received theoretical instruction and opportunity for practical teaching. Also in the institutions preparatory for the Training Colleges, gymnastics are taught, and "The New Guide for Gymnastic Instruction in Prussian National Schools" is the basis of this instruction.

8 Q. See Answer 1. Special books are not officially recommended. Professor Boek's book, "The Structure, Life, and Hygiene of the Human Body," is much used.

9 Q. The Prussian Government have striven that in these matters, those most suitable should be employed, according to a series of rules. Several of the subjects mentioned, viz., concerning school seats and tables, have not yet been definitely settled. In reference to the erection and establishment of schoolrooms for the Primary Schools, information is given in the "General Directions of the 15th October, 1872."

10 Q. It is the intention of the State authorities that Gymnastics should be taught by teachers who also instruct in other subjects in the respective schools, but there are also professional teachers, both male and female, who teach Gymnastics alone.

11 Q. In Prussia there are no medical inspectors of schools.

12 Q. The teachers are directed to attend to all these matters.

13 Q. The number of hours given to class differs in the different classes of schools. In the Primary and Middle Schools, as well as in the Training Colleges, the number of hours devoted weekly to class is given in the "General Orders." In the Higher Schools, from about 30—36 hours per week are appointed. As a rule, between each two hours of instruction there is a pause of five minutes, in addition to another pause of ten to twenty minutes. Each pupil has at least two lessons in Gymnastics per week.

14 Q. Official and general statistics have not been made. The results of statistics obtained in other ways are in part to be found in a work written by Prof. Dr. Virchow, at the

request of the Prussian Ministry of Instruction, "On some Influences of School Life upon the Health of Children."

Berlin, April 28, 1877.

## AUSTRIA.

*The Official Answers to Dr. Roth's questions by His Excellency the Minister of Education in Austria.*

(The original is in German.)

1 Q. Before the year 1869 it was not a compulsory subject in the Superior Schools (see "Sketch of the Organization of Superior and Polytechnic Schools," Vienna). By the laws of 1869 and 1870, relating to the Polytechnic Schools of the several Provinces, Gymnastics became a compulsory subject in all of them (Ministerial Order, 1869 and seq.). By the law relating to Primary Schools of the 14th May, 1869, Gymnastics became obligatory in all classes of Primary Schools and in Training Colleges for masters and mistresses (Ministerial Order, 1869, No. 14). The male and female pupils in the Training Colleges receive a thorough instruction in the Physical Education of children; and by special regulations the masters and mistresses of Primary Schools are required to pay special attention to the Physical Education of their pupils. (See answers to Q. 8 and 12.)

2 Q. See Answer 1. The same regulations apply to Private Schools as to Public Schools of the same class.

3 Q. A special method is not prescribed. The regulations concerning Primary Schools, Training Colleges for teachers, and Polytechnic Schools of the several States, as for instance Bohemia (see Ministerial Order, 1874, Nos. 31 and 32, and 1875, No. 35), give the gymnastic exercises which are to be employed for the several grades of instruction. In the Superior Schools (Gymnasien), the same course of Gymnastics is followed generally as in the Polytechnic Schools. The course of Gymnastics in the Superior Schools is regulated by the provincial school authorities. Apparatus is employed in teaching Gymnastics.

4 Q. No particular books are recommended.

5 Q. In the Primary Schools the ordinary class teachers instruct in Gymnastics. In the Training Colleges, in the Superior Schools (Gymnasien), and the Polytechnic Schools, either special gymnastic teachers are appointed or assistant teachers give the instruction. The schoolmasters and mistresses of the Primary Schools gain their knowledge of Gymnastics at the Training Colleges. The gymnastic teachers of the Training Colleges, and of the Superior and Polytechnic Schools, are taught by special courses of Gymnastics for teachers held in Vienna and Graz.

6 Q. Yes, except in special cases on production of a medical certificate, where gymnastic instruction may be omitted; but even then the pupil, though exempt from participation in the exercises, must be present during the lesson, and must follow the theoretical course for the regulated number of hours.

7 Q. The instruction continues during the whole course of study (2—5 years in the majority of the Crown Provinces, 3—4 years in the others). For the method and books see answers 3 and 4.

8 Q. Lessons on the structure of the human body, and on the most important laws of health, are given during the teaching of Natural History in all Primary and Middle Schools. In the Training Colleges the structure of the human body and hygiene are taught for six months, for two hours weekly. Special books on hygiene are not recommended as this instruction includes the choice of such books as are suitable for instruction.

9 Q. There are special regulations in the respective Provinces for the erection and furnishing of Primary Schools, as well as for hygienic arrangements. They differ only in a few details from the General Directions (Ministerial Order of 1873, No. 73). When Superior and Polytechnic Schools are to be built, the Provincial Sanitary Inspector or competent individuals are consulted.

10 Q. See Answer 5.

11 Q. There are no special medical inspectors, but they



are appointed from time to time as required by the sanitary authorities of the Board of Administration. In addition, each District School Board has a Special Permanent Committee of School Hygiene, of which a competent medical man is an ordinary member (Ministerial Order, June 1873).

12 Q. Teachers in Primary Schools have to see to these matters; and not only to these, but, where practicable, to look after the home life, so as to improve the physical condition of their pupils.

13 Q. This varies very much in the respective Provinces, according to the different classes of schools. On an average these are from 5—6 hours daily of class. Between each hour of instruction is a pause of from 5—15 minutes. There are two hours' instruction in Gymnastics weekly.

14 Q. School authorities do not collect such statistics. On a few occasions statistics have been obtained by private medical men.

### SWEDEN.\*

1 Q. The Swedish Government, under the direction of the celebrated P. H. Ling, founded in 1813 the Royal Central Gymnastic Institute at Stockholm, where teachers of both sexes are gratuitously trained for two years, and receive a diploma after having passed a theoretical and practical examination. A small subvention is given to the students after having passed their examination.

The course of studies comprises the elements of Anatomy, Physiology, and Hygiene, as well as the theory and practice of ordinary Gymnastics for the harmonious development of the body and Gymnastics for curative purposes. A certain number of officers from the different regiments of the army are appointed to undergo a year's course of Gymnastic training at the Central Institution, in order to enable them afterwards to act as Instructors of Gymnastics in

\* The answers to my questions have been kindly given by a teacher of Physical Education in the Royal Superior Training College for Female Teachers of a higher Class.

their respective regiments; they are allowed four Swedish crowns, about five shillings, per diem during the course. A number of certificated schoolmasters and mistresses are also sent to this institution, who afterwards instruct either the teachers or pupils in the Primary and Secondary Schools.

2 Q. Gymnastics are obligatory in all Public Schools and Training Colleges (called Seminaries in Sweden); nothing but a medical certificate as to physical inaptitude or disease can exempt a pupil from taking part in the exercises. Although introduced into nearly all the better Private Schools, the law does not make them obligatory there.

3 Q. The Gymnastics are based on Ling's system. The Royal Superior Training College of Lady Teachers, founded at Stockholm in 1861, and the Model School for Girls attached to it, have an exceptional position; in 1871 a combined system of Gymnastics was introduced by Miss Löfving, who was sent abroad by the Governing Board of the Training College to study the various methods and systems of teaching Gymnastics. According to this combined system, free exercises are taught in the lower classes of the Model School; in the higher classes and in the Training College they have exercises with sticks with moveable balls, and sticks with balls fixed at each end, and wooden rings. Each class has three lessons a week.

4, 5 Q. At this Superior Training College (the only one of its kind, as more advanced studies are required for teachers in Secondary Schools, all the other Training Colleges in the kingdom being intended for the training of teachers in Primary Schools), there has been ever since its foundation an obligatory course of Hygiene and Physical Education, based on Anatomy and Physiology. Later on, this course was divided into a more elementary and obligatory course of Hygiene, and a more extensive but optional course of Physiology. The printed outlines of the lectures are given to the students as a guide in their preparatory work; the human skeleton, an anatomical figure of Dr. Aulseaux, and large diagrams, are used in the lectures and by the students in their private studies. All other Training Colleges have a

course of Hygiene, but less extensive and scientific. At the Royal Gymnastic Central Institution, the training of the students in the knowledge of Physical Education is based on thoroughly rational and scientific principles. Anatomy is studied by the aid of preparations of the human body, and on the dead body in the dissecting room belonging to the Institution. In this subject, as well as in Physiology and Hygiene, repeated attention is paid to the local and general effects of the various movements, *i.e.*, the action of the voluntary muscles on the whole body. On the theoretical part of the lectures, notes are taken by the students, for whom several works on the various subjects have been published by the professors. The lecture-rooms and museum of anatomical preparations and illustrations are always open to the students.

6, 7, 8 Q. Some knowledge of the structure and functions of the human body, Hygiene, and Educational Gymnastic Exercises, constitutes a part of the obligatory course in the Training Colleges of all male and female school teachers. As to the Superior Training College at Stockholm, see No. 3. Hygiene is not an obligatory study in the Higher Public Schools; but in its place, some knowledge of the human body is taught in connection with Zoology. Hygiene is taught in some of the Superior Girls' Schools, all of which, with the exception of the above-mentioned Model School, are private. In the Primary Schools, a popular treatise on Nature (Berlins' *Naturlære*), containing some elementary notions of the structure and functions of the human body, is generally used as a reading book.

9 Q. During the last twenty years, much attention has been paid to the sanitary requirements of school buildings and their furniture, etc.: thus Sweden has, in some respects, served as a model for several other countries.

10 Q. In the Boys' Public Schools in towns, there is generally a special teacher of Gymnastics; mostly an officer who has undergone the course and passed the examination at the Royal Gymnastic Central Institute. In the superior Girls' Schools, Gymnastics are usually taught by one of the



lady teachers trained at the same institution. In the country schools (generally mixed schools), the schoolmaster himself teaches Gymnastics which he learned at the Training College.

11, 12, 13 Q. The Public Schools in towns have their medical inspectors, who ascertain whether the pupils are fit for the Gymnastic exercises. The above mentioned Royal Superior Training College for Lady Teachers, and the Model School attached to it, keep a register, wherein are written four times a year, the results of the examinations made by the medical inspector as to the physical state of each pupil, the range of vision, etc. In all well-managed schools, attention is paid to the good position and occupation of the pupil; but as to their dress, only so far as it concerns the general discipline and Gymnastic exercises. Very young children stay from three to four hours in school, and have short lessons and frequent recreation; at a more advanced age they remain five or six hours, out of which one hour is allowed for lunch and play in the open air. In most schools, five or ten minutes' recreation is allowed between every lesson. The amount of Gymnastics varies in different schools, from half an hour three times a week to half an hour or an hour daily.

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The following short account of the organization of the Royal Gymnastic Central Institute at Stockholm is given by Prof. Georgii, in his pamphlet on *Rational Gymnastics* (1873):—

“This Institution, founded by Ling, was established by the Swedish Government in the year 1813, and has since been supported by annual grants of money; which, with the view of enlarging the institution and extending its usefulness, have from time to time been increased. The present annual grant is about 32,000 rix dollars.

“The object of the Institution is the practice of Ling's system of Gymnastics, and the education of properly qualified practitioners of the system in its various branches. For this purpose it is divided into three departments, viz., the Medical, the Educational, and the Military, each under the direction

of a separate Professor, assisted by a principal instructor and an efficient staff of subordinate teachers, who in the two former divisions are both male and female. It is required that the Professor at the head of the Medical Department shall be a Physician, and of the Military Department an Officer of the Army.

“The control of the Institution is vested in a Board composed of a President and three members, appointed by the Government. Of these members one must be a Doctor of Medicine, one a member of the Board of Education or a Certificated Master of Public Schools, and one a Military Officer.

“For such persons as desire to obtain the qualification enabling them to obtain appointments at the public schools, and under which alone they can practise Gymnastics in Sweden, a regular curriculum is prescribed. This course of study includes attendance on lectures on the following subjects:—Anatomy, Physiology, Pathology, and Hygiene, together with instruction in the theory and practice of Gymnastics, educational, military, and medical. The full course extends over two years, at the end of which time examinations are held on the various subjects taught and certificates of proficiency granted. Physicians who may wish to obtain the necessary diploma to enable them to practise medical Gymnastics are exempted from so long a continuance of study, as well as from attendance on the various lectures on Anatomy, etc.; they are merely instructed, and at the end of their course examined, in the theory and practice of Gymnastics as applied to the treatment of disease. In the case of the Commissioned Officers who are training for Army and Navy Instructors, as well as for those who only intend to practise Educational Gymnastics, the course of study as well as the examination are somewhat modified.”

### FRANCE.

In 1845 M. Salvandy, in 1853 M. Fortoul, in 1866 and 1869 M. Duruy, the then Ministers of Public Instruction, have appointed Commissions to study the subject and the

means of introduction of Physical Education and Hygiene in France.

In 1865 M. Husson, the Director of the Bureau de l'Assistance Publique at Paris, applied to the author about his views on this subject, as the Bureau of Public Assistance wished to introduce it in the schools of Paris.

In 1869, after Dr. Hillairet had made his report to the Minister, an important decree was published, that *Gymnastics should form an obligatory part of the instruction in all Lycées and Communal Colleges, in the Primary Training Colleges, and in the Primary Schools* which are attached to them. A *special certificate* of the knowledge of instruction in Gymnastics was required for those who wished to teach this branch of education. After the war with Germany, still more attention was given to this branch of education.

In 1871 M. Gambetta, in his programme-speech at Bordeaux, has thus mentioned specially Gymnastics, to the importance of which his attention was directed probably by the great progress of the Germans :—

“On the day on which it will be well understood that we have but one task, viz., to instruct the people, that we must diffuse education and science on a large scale, a great step in advance will be made towards our regeneration ; but our education must be *twofold—it must develop both mind and body* ; it is necessary that education provides every single individual *with an intelligence well supported by the bodily organs*. It is not enough that every one should be able to read and to reason, I want him also capable of acting and fighting. You must place on the side of the teacher, the gymnast and soldier, in order to enable our children, our soldiers, our fellow-citizens to hold a sword, to handle a rifle, to march a long distance, to pass the night in the open air, and to undergo with energy all kinds of fatigue. *This double education is absolutely wanted*, otherwise you will form people who read, but not patriots. Others have advanced before us, and we have been obliged to see the France of Kleber and of Hoche lose her two most patriotic provinces. *All this is the result of our physical inferiority.*”



M. Jules Simon, after the fall of the Empire Minister of Public Instruction, recommended energetically Gymnastics in the following manner to all the headmasters of the colleges and schools in France:—

“I beg you to assist me in introducing Gymnastics into our habits in a profitable and earnest manner. This is not only in the interest of public health: a healthy child is better prepared by it for study, and especially for the battle of life. Morality gains by this education of the body; much money is not wanted for the purpose; and in case of need, exercises can be performed *without a trapeze or dumb-bells*. Our medical men will help us to do our task; if the children are once accustomed, and take pleasure in these healthy exercises, we may be sure of a prompt amelioration of the race.”

As I have no official statistics about the progress of Physical Education, I refer to the Report of my Commissioner, who visited several Schools in Paris and the Department de la Seine, where much progress has been made lately.

### SAXONY.

The Saxon Government established, about eighteen years ago, in Dresden, a Central Gymnastic Institute, for the instruction of schoolmasters and mistresses, who, after passing an examination in all the studies required for Physical Education and Hygiene, receive a certificate enabling them to teach this educational branch. The beneficial influence of this Institute on the working population of Saxony has been mentioned in Mr. Butler-Johnstone's speech in the House of Commons (see page 5). Dr. Kloss, the author of many good works on Physical Education, is at the head of the institution at Dresden.

### WIRTEMBERG

Has also for many years established a similar Central Institution, under the management of the well-known and learned author of *Die Gymnastik der Hellenen*, Dr. Jäger, who has

also introduced a special system of tactic evolutions and exercises, to prepare the boys of 14—18 years, all of whom are obliged to serve in the army, for their future vocation as soldiers. Thus, independent of the diminished expense for changing the raw material into a soldier, the task is also made much easier, because, according to a writer in the *Daily News*, 19th June, 1862, "In training the young boy we bend the tender twig; in training the older youth we bend less easily the twisted stick; in training the man whose frame has been set, and habits of action formed, the task is often one of straightening the gnarled oak."

### IN THE GRAND DUCHIES OF BADEN AND HESSEN,

According to the latest private communication, Physical Education has been made obligatory in all, even the smallest village schools.

Many German towns, as Berlin, Frankfort, Bremen and others, spend also much money on this branch of education, and on special buildings called *Turn-halle*, where girls as well as boys have the advantage of being physically well developed in a rational way.

### IN SWITZERLAND,

Physical Education and Hygiene are compulsory in all Training Colleges, in all Elementary and Secondary Schools for boys and girls. Large empty rooms are specially built for the practice of free exercises, and much attention is everywhere paid to this branch of education.

### ITALY.

Especially in the towns of Milan and Turin, Physical Education is favourably progressing. (See Mr. Bernard Roth's Report, page 56.)

### HUNGARY.

Here the Government, according to the suggestions of the late lamented Minister of Education, Baron Oetvös, has

made Physical Education an obligatory part of the school-curriculum.

## RUSSIA

Has for many years introduced Physieal Education, but unhappily only in the educational institutions of the future officers of the Army and Navy. Dr. Berglind has been ordered to write a special book on the subject, which is profusely illustrated.

## AMERICA.

On the other side of the ocean, in Massachusetts, and especially in Boston, according to the reports which I have from the Boston Association, they have introduced Physical Education; they have also a special Medical Inspector of Schools—an office which is very much wanted by all the School Boards in England, and which would prevent many diseases and save many workhouse and hospital expenses.

In Amherst College a special Professor of Physieal Education is appointed, and all the students are obliged daily to attend his classes.

In all the United States of America, more attention has been paid to Physical Education since the Civil War.

## AUSTRALIA.

At the antipodes, in Melbourne, an energetic young lady, in whose training as a teacher of Physieal Education and Hygiene I had some share, began, towards the end of 1878, the introduction of this science.

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Besides the official answers from the Ministers of Public Instruction, the Author's Commissioner had the advantage of receiving other official documents, and of having the official permission for visiting the schools, and also of being specially recommended to the principals and head masters.

The following is merely



AN ABSTRACT OF A REPORT ON PHYSICAL EDUCATION  
IN SOME CONTINENTAL SCHOOLS, VISITED BY MR.  
BERNARD ROTH, F.R.C.S., IN 1877.

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BELGIUM.

In consequence of an introduction of the English Minister, Mr. S. Lumley, C.B., I had an interview, on Jan. 6th, 1877, with the Minister of the Interior, Monsieur Delcour, who has charge of the Education Department. He gave me every help, and took great interest in my inquiry, as it is due to him that so much progress has been made in furthering and establishing Physical Education on a firm basis in Belgium. By him I was introduced to Mr. Emile Greyson, the head official in the Ministry of the Interior, who is extremely enthusiastic about Physical Education in schools. This gentleman gave me a series of very interesting reports upon the subject, the most important being a Report of a Royal Belgian Commission consisting of three gentlemen, who were sent in 1873 to Holland, Germany and Sweden, to study what was being done for Physical Education in those countries. The principal member of this Commission was Captain Docx,\* who drew up a text-book from the information obtained in this inquiry.

In Belgium, those public schools which are under direct Government supervision, viz., all those above the rank of primary or communal (parish) schools, have compulsory instruction in gymnastics and hygiene. In these latter schools, Government can only indirectly compel the managers

\* Captain Docx, in drawing up his book, kept in view that boys after leaving school become soldiers, so many of the simply military formations and free exercises, etc., are introduced into the course of instruction; so that the recruit, when he is being drilled, finds that everything is already familiar to him. The movements of swimming are also taught, so that whenever there are opportunities, children may learn to swim.

to provide a gymnasium, by refusing subsidies if this is not done.

The pupils in the male and female primary training colleges are required to study hygiene, the elements of anatomy, physiology and gymnastics, so that they may teach these subjects to their pupils; and in this way no special teachers in these branches are required. Teachers are stimulated to avail themselves of the opportunities given to acquire the necessary knowledge, by a very considerable increase of salary being made in the case of those who pass a satisfactory examination in gymnastics and hygiene. It is, however, only within the last two years that these subjects have formed a part of the course in the training colleges.

The schoolmistresses who attended voluntarily a temporary course of four weeks, last summer, passed an extremely good examination at their conclusion; and I have read several of their written answers, taken promiscuously out of a thick packet of papers. I also received two circular letters from the Minister, in which he urges school authorities to pay strict attention to gymnastics. It seems a pity the Government has not any authority over private schools, which are mainly in the hands of the clergy.

In Brussels, the Municipality have, up to the present (January 1877) opposed the views of the Government; so that Physical Education has not yet been brought to a satisfactory result. I was thus strongly advised to pay the ancient town of Ghent a visit; where, the Municipality having been prepared for many years previously by several gentlemen much interested in Physical Education, the Government found a very fertile soil for their seed, and where everything is being carried out in practice, as it is shown in theory in the Government regulations.

Ghent.—I accordingly went to Ghent, with a letter of introduction to its Burgomaster. At the Hotel de Ville, I made the acquaintance of Mr. Coppée, the Directeur de l'Instruction Publique Communale, who very kindly accompanied me throughout my tour of inspection.

*Ecole Primaire de Garçons, Cour du Prince* (boys' parish

school). Although the instruction here is gratuitous, all the boys were neatly and cleanly dressed: the great majority wore huge wooden sabots.

The school building consists of a one-storied quadrangle, with the playground in the centre. In practice, this arrangement has been found very objectionable, because, whenever any one class is being taught gymnastics, all the other classes are disturbed at their studies by the words of command, marching, etc. The head master kindly called out the head class of about 40 boys, from 10 to 14 years old: their energetic teacher, Mr. Vanhoutte, who has the Government diploma of "Professeur de Gymnastique," put them through their exercises, which were admirably done, viz., free exercises on the spot, as movements of the head, arms, trunk and legs; marching in slow and quick time, in single and double files, &c. These were followed by a number of exercises with ordinary wooden sticks, these being the only apparatus supplied to the school. Mr. Vanhoutte did not receive any extra salary, although he would have a better chance of promotion than the other teachers. There are 500 pupils in this school. Each boy has half an hour's gymnastics three times a week.

Ghent.—The girls' school in the rue de l'Académie (*Ecole payante pour filles*), where the parents pay, is a large handsome red brick building. A class of about 30 girls, between 10 and 12 years of age, were having their gymnastic lesson in a large, lofty, well-ventilated room, which serves as the playroom at other times. One girl sat at the piano playing various tunes, to which the others kept time while performing the several exercises as ordered by the schoolmistress. Some trunk movements were executed without music, but while all were counting aloud. This being but a beginners' class, the head schoolmistress sent for the senior class of girls, from 14 to 16. The ordinary schoolmistress in charge of this class gave them movements of each part of the body in turn, viz., head bending forwards, backwards and laterally; head rotation to the right and to the left respectively; arms bending, and arms stretching upwards, outwards, downwards, back-



wards and forwards; circumduction of one arm; of both arms, in slow and then in quick time; trunk bending forwards, backwards and laterally; trunk turning to the right and left; walking on the heels and on the toes; raising and bending the knees alternately; marching and counter-marching, forming circles, spirals, etc. All the girls did very well, and appeared to take great pains; music was played, as before, to mark time. The mistress here (*Madoiselle Vanmelle*), as well as the teacher of the former class, had attended a special course of instruction in gymnastics, etc., for schoolmistresses, given at Ghent under the direction of the town authorities.

Ghent.—We then inspected the girls' orphanage, where there are 100 girls. Mr. De Kryger, Superintendent of Gymnastics at Ghent, directed the exercises of the whole school, in the absence of any mistress capable or willing to teach gymnastics.\*

The gymnasium is a portion of the playground covered in with glass, the ground being covered with a thick layer of sand. The children varied in age from 7 to 15. They counted aloud whilst executing the following movements, viz., head bending forwards, backwards and sideways, while counting one to eight; head turning and head rotation; shoulders raising and falling; the arms stretched forwards, closing and then stretching the fingers quickly; while the arms were being slowly raised forwards and sideways respectively, raising the heels; arms bent, and arms stretching upwards, outwards, backwards and downwards; rapid circumduction of one and then of both arms together; lateral balancing of both arms. The girls now closed nearer one another and grasped hands, and alternately bent the trunk forwards and raised the joined hands upwards. Separating again, twisting of the whole body to the right and left alternately, and touching the ground with the fingers, while the knees were kept stiff. Now marching in files, in various

\* There is a great prejudice against gymnastics amongst the majority of the women teachers: two or three in the parish schools were even discharged because they refused to teach gymnastics.

steps : on the toes, on the heels, jumping from one foot on to the other ; raising the knees alternately as high as possible. Standing in open distance, leg movements describing a half circle, with one foot on the ground in front of the other ; squatting down on the heels and rising ; jumping on the spot. Then many movements with ordinary wooden sticks. Finally, marching in twos, fours and eights ; back again to single files in valse step, while singing a very suitable song.\* Next, ladies' chain ; and after a quick double, the girls were dismissed. The instruction in gymnastics is given during an hour three times a week.

Ghent.—The *Athenée Royale* (corresponding to an English public day school, as University College School in London). Here Mr. De Kryger teaches also, but the boys use the ordinary apparatus of a gymnasium, viz., parallel bars, high bars, vertical ladders, etc. Five sections of about ten boys each were at the several apparatuses, going through most of the usual German turnen : a senior boy acted as leader in each section. De Kryger had to keep a sharp look out, that none of the exercises prohibited by the Government were done ; for these were exactly those the boys were always trying to do.

Ghent.—The same kind of instruction with apparatus is given in the *Ecole Moyenne*, which is the preparatory school for the Athenæum. In the former school each pupil has daily half an hour's gymnastics. The head master informed me that as the boys have all their playtime taken up either with games or gymnastics, there are no opportunities for conversation, or for a bad boy to corrupt the others.

The *Ecole Normale* attached to this *Ecole Moyenne* is a training college, where some 60 young men, from 16 to 24 years old, are being trained as teachers for the parish primary schools. I was present twice during the lesson in gymnastics given by Mr. Van Swieten, a young man of 25, who is an ordinary teacher in the *Ecole Moyenne*, and has

\* Which is so pretty, that having expressed a wish to have it, Mr. Coppée very kindly had it copied for me.

besides the Government diploma of "Professeur de Gymnastique." For teaching gymnastics in this training college he receives 1600 francs per annum, in addition to his salary of 2600 francs in the former school. On the first occasion I saw the whole 60 marching, etc., also numerous free exercises. The senior class of 15 young men, from 18 to 21 years old, had their gymnastic instruction in the communal gymnasium: all were well built and very healthy; the majority seemed rather intelligent. Arranged in two lines at opposite ends of the building, they advanced towards the middle, while executing the series of movements called "the gladiator's walk" (described in Captain Doex's book): this, as well as "the Pyrrhic walk," were very well done, each pupil throwing his utmost vigour into each change of position: every one did extremely well. Next some exercises with the iron rod tipped with iron spheres, followed by ordinary "German turnen" exercises on various apparatuses. After some trials of strength between couples, employing a long pole, various marchings in single file were gone through, walking on the heels, then on the toes, forming different figures, viz., circles, crescents, undulating lines, concentric and eccentric figures, etc. During all these exercises I did not hear or see a laugh, except while "lutte à la perche" (the above-mentioned trial of strength) was being gone through.

In the Government *Ecoles de Réforme* (Industrial Schools for unconvicted and deserted children) no gymnastic instruction was given to the 500 boys, although the recent Government regulations regarding gymnastics are applicable, but not yet introduced.

The corresponding *Girls' Industrial School*, under the care of a Sisterhood who attend to everything, from teaching down to scrubbing the floors. The senior class of about 50 girls (from 14 to 20 years of age) came out into the large playground; each wore a pair of enormous white wooden sabots, which impeded their movements very considerably. One of the older girls gave the word of command in a monotonous voice; the movements were correspondingly carelessly executed, and much too quickly, although good time was



kept ; they all appeared afraid to raise the hands above the level of the head. A few leg movements were also done, but this created a good deal of noise, on account of the clogs. The marching was very badly done. The sister who usually instructs in gymnastics was ill at the time of my visit. In fine weather, a quarter of an hour's daily instruction is given ; in wet, nothing is done, which is usually the case throughout the winter. In another part of the building a younger class (girls from 7 to 12) were sitting very crowded together in a rather small room. The sister in charge put them through their movements. She never spoke a word the whole while, but marked time with a wooden clapper held in her right hand, indicating which movement she wished to be done with both hands, etc. : first, there was a clap to lay down their work ; next, a clap to stand up ; each girl, still in front of her seat, now executed several movements with the head, arms and legs ; when the arms had to be raised up laterally, the sister raised her arms at the same time, giving a rapid series of gentle claps, which were gradually increased in intensity the higher the hands rose. Next, a sort of religious prayer was sung while all were sitting, the palms being kept together in the attitude of prayer ; and then from time to time gestures were performed with the right hand only, as stroking the forehead, shaking the fingers in the air, and spreading the hand out in front, etc. The children took evidently most pleasure in this prayer, although it was absurd to call this doing gymnastics.

Brussels.—On my return I visited the "*Model School for Boys*," founded by the Liberals and Freemasons. Here the arrangements are nearly unique. Each boy attends seven classes every ordinary school-day : each lasts three-quarters of an hour, and between each class is a quarter of an hour's recreation. During the first quarter of an hour the boys play about as they like : during the second quarter of an hour, gymnastic free exercises and tactical marching are directed by the ordinary master of the class. Each teacher drills his own class : the third quarter of an hour is play ; the fourth gymnastics, and so

on for the fifth and sixth recreations. Each class is limited to 33 boys; this number cannot be exceeded, because there are only 33 separate fixed chairs and desks in each classroom. In addition, each class has an hour's gymnastics, twice weekly, on apparatus under a special master. I found that ordinary German-turnen is the method followed. Mr. Greyson informed me that he had recently introduced gymnastics into one of the largest Crèches of Brussels (institutions where young children are taken care of during the day, while their mothers are out at work); and that a marked improvement in the health of the children had since taken place. *At the Crèche rue de l'Abondance*, children above  $2\frac{1}{2}$  years old are kept apart from those who are younger. The former are divided into three classes of about 70 each. The senior class vary from 4 to 7 years. The teacher who has passed a Government examination, put them through their exercises sitting or standing in their places, keeping time with a wooden clapper; singing was also employed as an accompaniment; very good rhythm was kept. Then some gymnastic games were executed. (The books employed by the mistresses are *La Gymnastique à l'Ecole primaire et l'Ecole Gardienne*, par Dries, *Musique de Deporck*; Gand (Vanderponten) and *Jeun Gymnastique avec chants pour les Enfants de Asiles*, par Madame Pape Charpantier, Hachette et Cie, Paris.) It was very surprising to see the exercises so very well done. When marching, the boys were collected in one row, each grasping with his two hands the shoulders of the one in front of him; the girls forming another string on the opposite side of the room. In this way the mistress guided the leaders about the room, very like two huge serpents moving slowly up and down the room, between the seats and round the table. I saw somewhat similar exercises in the two other classes, and I was greatly astonished to see even children of 3 and under following the exercises with great interest, and imitating them with more or less success. Amongst the 200 odd children, I only saw one sulky little fellow, who I suspect had been punished just before I entered; yet even he did

all the movements with his right arm, the left supporting his sulky face.

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## FRANCE.

Paris.—Jan. 26th, I visited the *Lycée Henry IV.*, one of the large public schools in Paris, and corresponding somewhat to our public day schools, except that there are as many day scholars as boarders, about 500 of each. Gymnastics on apparatuses as well as free exercises are practised. The teachers of gymnastics are retired non-commissioned officers of the army (anciens sous officers de l'Armée), who have attended a six months' course of instruction in gymnastics at the Military School de la Faisanderie. A course of twelve lectures on the elements of Anatomy and Hygiene are given by the doctor of the Lycée to the senior boys in their last school-year. There are 4 hours of class, and 7 hours of preparation every ordinary school-day, exclusive of  $2\frac{1}{2}$  hours recreation, divided into four periods. Half-an-hour's instruction in gymnastics is given four times weekly, during preparation time, with the exception of the senior three classes when it takes place during recreation time. I was present at a lesson of a class of about 30 boys; two sergeants in plain clothes directed the exercises; the first 10 minutes were devoted to free exercises of the arms and legs, the rest of the time being given to ordinary exercises on the several apparatuses, viz., high horizontal bar, parallel bars and ropes; some exercises were also executed with wooden sticks, having the ends enlarged into spheres. One out of the four half hours per week is entirely devoted to marching and drill. In addition the senior boys are taught the manual exercises with the musket.

Paris.—*Training College for Schoolmasters* (Ecole Normale Supérieure), rue d'Auteuil. Number of pupils, 75 young men from 16 to 22 years old. There is no covered gymnasium, so that in wet weather very little gymnastics can be taught. The teacher of gymnastics, as at the Lycée,



is a sous-officier, who has received a little extra training from Mr. Laisné, whom I shall mention further on: this drill-sergeant was busy cleaning rifles when I arrived, and he at once offered to put his pupils through their rifle exercises. I witnessed a few simple head, arm, and leg exercises, the pupils counting till the teacher, whistling as a signal, took it up and marked time for them. The teacher soon exhausted his very meagre knowledge of free exercises, so in about five minutes the pupils were told off to the fixed apparatuses, which are of the usual kind. Many of the young men looked very weak, and compared very unfavourably in this respect with the general good physique of the youths in the corresponding school at Ghent. Gymnastics are taught three times a week, one hour each lesson: a considerable time is devoted to military rifle exercises. The director informed me that they could not have the drill-sergeant every day, because it would cost too much! it was such a distance from Paris! [About three quarters of an hour per omnibus from the Palais Royal]. These young men in rotation, give instruction in gymnastics to the boys in the communal school attached to the training college. This is the only male normal school for the whole of the populous department de la Seine, which, as is well known, includes Paris.

On February 6th, I visited the corresponding training college for Schoolmistresses, viz., *Ecole normale d'Institutrices* du département de la Seine. Mr. Laisné teaches here: the lesson took place at 12.30 p.m. The very spacious oblong dining hall, constitutes the gymnasium, by removing the tables and benches to one side. The 75 young women, from 16 to 22 years old, came in accompanied by three lady teachers, who were present the whole time, and kept order and helped Mr. Laisné in correcting any mistakes on the part of the pupils, which services were hardly ever required. The pupils arranged themselves, sized, and in position for simple arm exercises very quickly. Before doing any given arm movement, Mr. Laisné sang the first few words of the appropriate song, and then gave the command to begin.

The singing was admirably done, and as a consequence the movements went on with the regularity of clockwork. Rather a quicker time was sung while the flexions and extensions of the arms upwards, downwards, forwards and outwards were being executed: on the other hand a much slower time for circumduction (swinging round) of the arms. This last movement was extremely well done; their chests could be seen to enlarge visibly, although they stood immovably in their places, not moving any part more than was required. Every now and then between the arm movements, alternate raising of the knees in quick time was done, accompanied by a sort of pretty chorus, which thus gave a rest to the arms. The juniors now sat down, while the seniors, viz., those of the third year, went through various most useful exercises with the xylofers; these are wooden sticks, some 5 to 6 ft. long, strengthened and weighted with a rod of iron, the invention of Mr. Laisné. The vigorous manner in which the more complicated movements were done was extremely pleasing, especially when the pupils did exercises two and two together. The couples stood facing one another, and seized the ends of one another's sticks; these were then raised laterally, directly upwards, which requires some dexterity, as the sticks have to be kept horizontal the whole time; these, like the other exercises, were accompanied by singing. To give these seniors a rest, those of the second year did a few simple movements with light dumb-bells, between 2 and 3 lbs. in weight; here again alternate leg raising in quick time with chorus singing was repeated at intervals. The seniors now did some curious but useful movements with sticks, on which wooden spheres slid. The ball, some 6 to 7 inches in diameter, being prevented from slipping off by means of an indiarubber rim at the opposite end of the stick; there is another rim with another elastic ring at the other end of the stick. These movements were useful, although curious, because they helped to expand the chest, and brought many of the back muscles into action. In stretching the arms outwards from arms bent position, the spheres would fly outwards and increase the energy of

the movement very much. Finally all the pupils were ordered to get into position, and went through several very simple arm and leg movements, suitable for very young children from  $2\frac{1}{2}$  to 6 or 7 years old, in the "écoles gardiennes." The songs consisted of several fables of Lafontaine, arranged for music. Mr. Laisné is very musical, and gave the time of the various songs without the help of any musical instrument. They then advanced with a kind of gymnastic step, viz., right leg and right arm carried forward at the same moment; then the left limbs, and so on alternately; then various arm movements whilst marching and singing. Finally two pupils were placed as centres, and with the aid of the iron pillars which happened to support the ceiling, a series of various serpentine, zigzag, concentric and eccentric marchings were performed, the pupils being led by one of the seniors; all still; and at last they walked out of the room still singing to return to their several studies.

The assistant head mistress, Mademoiselle Schlümel, showed me their small gymnasium, where they have a large collection of various instruments for games; such as bats, shuttlecock and battledore, cups for catching balls, hollow tubes for blowing small spikes against a target, and things for several other games. There are weekly two lessons of an hour each; in addition there is an hour's daily recreation, when they are obliged to play at some of the games just mentioned. Gymnastic instruction has only been introduced a year, and the assistant head mistress informs me that a very marked improvement had taken place in the health of the young ladies. The cost of the sticks, xylofers, dumbbells, games, including several ladders, etc., in the small gymnasium, cost about £40. I did not see a single girl with high or round shoulders, and they compared most favourably in this respect with the male training college, where a drill-sergeant has been teaching for many years past. The exercises I witnessed were taken from the following works by Mr. Laisné, viz.:—1. Exercices du Xylofer, Hatchett, 1873; 2. Gymnastique de demoiselles, 2nd Edition,



1869; 3. *Gymnastique classique, chants noté*, 2nd Edition, 1872. Mr. Laisné was formerly a non-commissioned officer in the army; he acted many years ago as assistant of Colonel Amoros, who was at the head of a very fine institution for educating teachers of gymnastics; the minister of the interior happening to disagree with the Colonel dismissed him. The whole school was thus broken up, the buildings which had cost £40,000 demolished, and barracks were very soon built on the site. Mr. Laisné has devoted much attention to Physical Education ever since, till he was appointed about two years ago chief Inspector of Gymnastics for all the communal schools of Paris, upwards of 200 in number: his salary is 2,000 francs per annum. The workmen at the Government Tapestry works at Beauvais, receive 2,000 francs also, in addition to a retiring pension when too old to work any longer. This tapestry is never sold, being manufactured for the national palaces, and for presents to crowned heads; yet a man on whom depends the physical well-being of tens of thousands of children, does not receive a sou more than the workman.

Paris.—Primary School for Boys (*Ecole (communale) primaire de garçons*): rue du vieux Colombier. I was directed to go to this school, because it had an energetic head master, having but 150 scholars. On my arrival at 4.15 p.m. (a very inconvenient hour for gymnastics), I found the largest class-room filled with a very noisy crowd of boys, from 6 to 14 years old; the object of my visit being known, all the seniors, viz., those above 11, were ordered to remain; they immediately busied themselves piling the benches up against the walls, there being no proper gymnasium. The four monitors fetched out the xylofons, which had in addition a blunt wooden spike at one end, and an iron with cross piece fixed towards the end to represent the lock of a rifle; ordinary very simple rifle manual exercises were done, all the children taking evident pride in their movements. Having deposited the pseudo-muskets, free exercises were done, keeping time to appropriate songs very well rendered; between each different

exercise, marching time on the spot was repeated some dozen times or so, a lively chorus being sung. The hump-backed teacher was most active, and after showing each new exercise, sang *sotto voce*, the first few words of the corresponding song; several very good exercises to expand the chest were done. I was extremely satisfied, and felt convinced that these poor children (the school is quite gratuitous) were receiving a much better Physical Education than the boys I had previously seen in the Lycée Henri IV. The head master, Mr. Dubois, assured me that since the introduction of gymnastics two years ago, a very great improvement had taken place in these boys; they were more healthy; more upright, both in physique and in character; being at the same time more obedient and more attentive to their lessons. He was sorry they did not do gymnastics every day. The teacher who has to instruct in gymnastics in addition to his ordinary teaching, receives 200 francs (£8), for this extra duty he had attended a course of about 24 lessons given by Mr. Laisné.

*Ecole communale de filles*, a corresponding school for girls in rue Ampère, 19. The building is quite new and very spacious. The junior class, viz., girls under 10 years, did a number of simple head, arm, trunk and leg movements; the schoolmistress was only partially *au fait*, having attended but a short course under Mr. Laisné. The children did not show very much practice, having but an hour once a week. The senior girls have an hour twice weekly. In fine weather the large playground is utilized for gymnastics, in wet weather the largest schoolroom. There also gymnastics is taught after school hours, at 4.15 p.m.

The last visit in Paris was paid to the *Jesuit College de l'Immaculé Conception*, rue Vangirard, where there are 1,600 pupils from 7 to 19 years of age, of whom some 600 are boarders. Mr. Laisné teaches, or rather superintends gymnastics here by his four assistants; each boy has an hour's gymnastics twice a week, consisting of exercises both free and on ordinary apparatuses. The gymnasium is a very large hall, which at other times is used for amateur

theatricals; there are besides six very large open playgrounds, each reserved for a separate division of the college. During the two hours' daily recreation the boys are obliged to play and run about; for their special amusement a book "Les Jeun de College," has been compiled by two reverent fathers, one of whom, Père J. Rousscau, took me all over the building and gave me every information.

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## ITALY.

The Superintendent or Director of the Schools of Milan (*Il Soprintendente Scholastico*), Chevalier Nigri, gave me the following information; adding, that he believed what applied to Milan was also true of most of the large Italian towns.

Gymnastic instruction is compulsory by law in all public schools; private schools are outside Government inspection: little children do only free exercises; older ones both free and on apparatuses. In the normal or training colleges for schoolmasters or mistresses, every pupil is obliged to follow the course of gymnastics during the three years' training (this only applies to Milan; the laws are not rigidly enforced in other parts of the kingdom). There is a special training college for teachers of gymnastics at Turin. As a rule, gymnastics is taught to each pupil for one hour three times weekly.

Milan.—The first visit was to the *Civica Scuola superiore femminile di Milano* (public high day school for girls), March 7th. A well-built school, with about 140 pupils, who are only allowed to enter after passing a satisfactory entrance examination, between the ages of 12 and 16. About £4 sterling is paid per annum. Half an hour's gymnastics is taught five times weekly. Unfortunately, it is not compulsory; so a very large majority of the parents foolishly object, even several doctors amongst them; the result being, that only about one quarter of the pupils receive gymnastic instruction regularly. The teacher of gymnastics is a lady, who teaches at a parish girls' school when not instructing in gymnastics;



she has the diploma of the Turin Training College for Gymnastics. I saw a number of good free exercises, alternating with running, stamping, marching, etc., without singing; also some simple exercises on apparatuses, viz., swinging and pulling up with the arms on the horizontal ladder; then running up an inclined board, and then running back again: this was done by two girls at a time holding one another's hands: some of the more courageous ones jumped from the top of the board, some 5 feet high. Lastly, some long jumping, and free exercises with wooden sticks and dumbbells. The half-hour's lesson began and ended with a graceful curtsey of all the girls, who seemed very healthy; hardly any round shoulders, and no flat chests: I did not see one really pale face. Some 50 girls, from 12 to 16 years old, formed the class. I was informed that similar gymnastics were taught in all the parish primary girls' schools. I should remark that the gymnasium here is also made use of for a boys' school, so that it contained more apparatuses than were used by the girls.

Milan.—In a *boys' parish primary school* of 1200 pupils, and a *girls'* with 800 pupils, under the same roof in the Via Palermo, gymnastic instruction is received by each boy and girl for three-quarters of an hour twice a week. On account of the large number of children, gymnastics is really being taught daily for several hours. I saw the boys' school first. Some three or four classes of the younger boys, from 6 to 9, were collected in the playground; about 150 in all. A lady,\* who is one of the three teachers of gymnastics for the boys' school, made them do a number of useful free movements of the head, arms and trunk. I happened to ask for some leg movements, so the teacher immediately ordered the children to number and to grasp hands. The odd numbers had now to bend the one leg as much as possible, while the other leg was held horizontally forwards above the ground; the even numbers on each side, who stood still, helping the odd numbers to keep their balance: first one leg was bent, and

\* There are male teachers only in the highest boys' classes.

then the other; next the even numbers had to go through the same performance, being supported by the odd numbers. Next a series of marchings on the spot were executed, stamping at every second, or third, or fourth step, according to the word of command. Considering their age, they did very well. I could not resist thanking the very able young lady who had just commanded so large a class with such ability. She is a regular teacher in the school, who has the Turin diploma for gymnastics. In addition to her ordinary salary, she has 300 francs (£12) per annum for teaching gymnastics.

In the *girls' school* I saw the same kind of exercises executed by a senior class of girls from 12 to 14: I was still more pleased with the remarkably good discipline and work shown. Two exercises interested me very much. The pupils having numbered, the even numbers stepped behind the odd ones; the former then grasped the wrists of the latter, and gently helped them to bring the arms as far as possible behind, so that the hands touched. After repeating this a few times, the relative position of the girls was reversed, and the shoulders of the even numbers being held by the odds, the former did large circumduction of the arms. All this was done most methodically and very quietly, as no counting or speaking was allowed. On inquiry I was still more pleased to find that these two exercises were devised by the teacher as a variation; proving how very useful and important it is that the teacher of gymnastics should be a well-educated individual, in order to make the instruction more useful and interesting.

As these pupils had been doing their gymnastic lesson in a class-room, we adjourned to the playground, where we saw another class executing a number of very rational exercises with ordinary sticks. Their personal cleanliness and healthy looks were most pleasing, this being the best specimen of a girls' parish school I had seen as yet. The schooling here is quite gratuitous; and gymnastics has been *obligatory* for every child in all the Milanese primary boy and girl schools for the last ten or twelve years. There are 28,000 children in these schools.

Before leaving Italy, I must mention the Day School for Ricketty Children (*Pio istituto dei rachitici in Milano*), which is quite peculiar to Milan and to Turin ; not existing in any other town in the whole of Europe. The one at Milan was founded more than a year ago by an enthusiastic young physician, Dr. Gaetano Pina. Forty children are taught here daily. They are fetched every morning by an omnibus from the various parish schools, and returned every evening by the same conveyance. There is a lady director, with two schoolmistresses ; all have a diploma. Froebel's system is followed. While some hours are daily given to ordinary instruction, special attention is paid to position and free exercises, and special therapeutic movements, when required, are daily employed. I saw several rocking-horses, and three different sizes of tricycles, for the amusement and treatment of the children. They are also fed ; the necessary expense being met by subsidies from the Italian Government, the province, and the town itself, in addition to some private charitable subscriptions. The age of the children varies from  $2\frac{1}{2}$  to 6 or 7, and the object of this school is to prevent such ricketty children becoming more deformed, and thus helpless cripples. [In London are cripples' homes, but no schools for ricketty children, in order to prevent them from being crippled.—Dr. R.]

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## AUSTRIA.

From the official answers to Dr. Roth's questions, I was led to expect that a great deal was being done for Physical Education ; but when I saw the practical working of the regulations on the subject, I was much disappointed.

Vienna.—*Normal Training College for Schoolmasters.* The pupils receive their gymnastic instruction in the gymnasium belonging to a Viennese gymnastic society in the Liebenberggasse. I was present April 4th, when the fourth year's or senior class had their lesson. About 35 young men were present. The teacher unfortunately not having the power



of maintaining discipline, I never saw a more unruly and disgraceful set. There were but some six or eight pupils who really seemed to be trying to do their duty. The free exercises and the marching were extremely badly done; the discipline was so bad, that one quiet and meek individual was being bullied the whole time: hardly a student passed him without giving him a spiteful dig in the ribs, or tumbling against him with all his weight. The poor fellow bore all this without saying a word, but he suffered acutely. To add to the noise, there were several exempted from doing gymnastics, who sat on a bench at the end of the room, and added to the noise the whole time by laughing and bawling remarks about those who were being taught. The lesson was concluded by some ordinary exercises on the horizontal and parallel bars.

In the *Female Normal Training College* in the Johannesgasse, the same teacher gave a lesson to the corresponding class of female students. As might have been expected from my experience above, the discipline was also here extremely relaxed; laughing and joking continuing the whole time. No lady teacher or directress was present to maintain order; and the offensive manner in which the teacher spoke to these young women was not conducive to much respect. Still, on the whole they did better than the young men. The lesson was given in an oblong room with a low ceiling, much too small for the 36 in the class, so that it was rapidly most disagreeably filled with dust. Besides ordinary tactical marching and free exercises with and without sticks, several kinds of walking, as two hops and a step on alternate legs, etc., were practised by three at a time with hands joined, who traversed the length of the room while the others looked on. I took the liberty of remarking to the teacher how very bad I found the discipline; he agreed with me, but put it down to the fault of the Director who is at the head of the combined colleges.

Instruction in gymnastics is obligatory for all in the Training Colleges, but no examination is required on this subject; the teacher has the right of rejecting a candidate

for want of attention in gymnastics, but this right is never exercised. I was sorry to find that this teacher was not an educated man. From this cause alone, it is only too probable that Physical Education will be thrown back for several years in Vienna and the province of Austria proper; because, how can we expect these young people to teach children in the parish schools, in their turn, after having been so improperly taught themselves, and after having learnt so little respect for this most important branch of education.

I can speak, however, with more praise of the gymnastics taught in a *Girls' Parish School* (Volkssehule) in the Karolinenplatz: here the teacher, Herr Walter (a gentleman who is teacher of other subjects in the same school), gave a splendid lesson to a class of about 40 girls from 10 to 11, who were most attentive; the tactical marching and free exercises were all very well done. The class was afterwards divided into two sections, another male teacher taking charge of the one half; exercises on the vertical poles and the oblique ladder were practised simultaneously by the two sections. Lastly, various marchings were executed by the combined class, while the time was kept up by some pretty singing. A novelty was a series of exercises with a skipping rope, one end of which was attached to the wall, the other held by the teacher, who kept swinging it round; the first exercise was to run under the rope after it had made two rounds; then after three rounds; later two girls had to run together; finally to jump two, three or more times as ordered. The girls evidently enjoyed their lesson, and all looked most neat and very healthy. The little daughter of the head teacher of the school (which has several hundred girls) was one of the pupils in the class. The teacher appeared very attached to his work, and did it *con amore*.

In a corresponding class of about 40 boys, in the *Boys' Parish School*, Rainergasse, ordinary exercises with and without apparatuses were gone through; they did not do as well as the girls, but vastly better than the normal training classes, quite irrespective of the discipline which

was very good. One hour's gymnastics is taught in the above schools twice weekly.

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## PRUSSIA.

Berlin.—Through the courtesy of the English Ambassador, Lord Odo Russell, I had a personal interview with Dr. Falk, the Minister of Public Instruction, who gave me every facility for visiting the different schools and colleges in Berlin. Dr. Euler, who is also the director of the Government Institution for training teachers of gymnastics (the classes here were unfortunately not meeting when I visited Berlin, the winter session having closed) took me to the Wilhelm's gymnasium (*Boys' Public School*, with 900 to 1,000 pupils); this is the most popular school for the middle and upper classes of Berlin. A middle and then a senior class went through a series of free exercises, tactical marchings and exercises on apparatus. Dr. Euler is extremely careful that each pupil does the right movement, especially when these free exercises are done; the discipline is perfect. Each pupil has an hour's instruction twice weekly.

*Boys' Parish School*, Brandenburg-strasse. A class of 60 boys, from 9 to 11, did some free exercises, tactical evolutions, and high and long jumping very well, considering many only began this year. The teacher studied under Rothstein; in addition to his salary as ordinary teacher, he is paid 1½ mark (1s. 6d.) per hour's instruction.

A *Girls' Parish School* is under the same roof; a senior class were taught in my presence. The lady teacher only receives 1 mark extra (1s.) per hour's instruction; she had followed Dr. Angerstein's course. The marching and free exercises were good. The director, Herr Boeblich, has advocated Girls' Physical Education for many years, he intends that all his girls should wear a gymnastic tunic; he has, therefore, with the aid of a few benevolent ladies,



bought a quantity of coloured calico, to be cut out under the direction of the teachers of needlework; in this way each girl will make her own dress; those whose parents cannot afford to pay for the material are to receive it gratuitously.

*Superior Girls' Parish School* (High School for Girls) in the Weinmeister-strasse; here I saw free exercises and marching very well done by a class of 40 girls from 12 to 14, under a lady teacher, who also instructs in other subjects. Some exercises were executed on the oblique ladder, but these I considered were rather dangerous, especially when a girl climbed to the top using her hands only, and swinging very vigorously from side to side. All the above schools have an hour's instruction twice weekly.

*Dr. Euler's Private Training School for Schoolmistresses in Scientific Physical Education.*—On Saturday, April 28th, I was present at a lesson given by Dr. Euler to about 50 schoolmistresses in the gymnasium of Mr. Raaz's Girls' School, Invaliden-strasse. As it was only their seventh lesson, most of the time was devoted to marching and counter-marching in ordinary, valse, hop and other steps; several other marching exercises were practised, in order to perfect their idea of time and order, independently of one another's movements, *i.e.*, while walking at a given signal, the even numbers had to jump eight times on the spot, and the odd numbers walked four times on the spot. All the ladies paid very much attention, and it was a great pleasure to see how each of them tried her utmost to do better than her neighbours. The room was much too small, even for those having the lesson, and yet there were upwards of 50 other ladies looking on for their instruction.

The hour's practical instruction being finished, we all adjourned to a room even much smaller, where Dr. Euler delivered a most interesting lecture on the theory of gymnastics; some of the subjects discussed that day were—how a class should be arranged for marching and for discipline; the best position for the teacher; how necessary it was to pick out by name those pupils who did not do the right

exercises, interspersing his remarks with anecdotes and practical suggestions, and with facts drawn from his own experience. Although the hundred mistresses had hardly elbow room, they all took copious notes. At the conclusion of the lecture I left with the Dr., but many ladies remained to practise upon the apparatuses in the gymnasium; some remained there nearly three hours I was told the next day. Dr. Euler only superintends these exercises on apparatuses indirectly by several lady assistants, whom he has carefully trained; his objection to being present is that many exercises are very beneficial, but with the ordinary dresses of ladies, it would often be disagreeable for a gentleman to be present. I may mention that next day, some ladies were amusing themselves during an interval of repose at the Humbolt Gymnasium, by swinging from hand to hand along the horizontal ladder, a most innocent and very useful exercise according to Dr. Euler, who, however, remarked to me that the performers' underclothing was frequently most objectionably displayed. Of course this might be avoided by having proper gymnastic tunics and trousers, but the prejudice against them is so very great.

*The Humbolt Gymnasium.*—The following day I was present from 9.30 to 11 a.m., when the advanced class of about 50 schoolmistresses and governesses were having a practical lesson in the large Humbolt gymnasium. The marching and free exercises were splendidly done, so also were the exercises with sticks. To give me an idea of their capabilities, Dr. Euler asked them to go through a series of complicated marchings and graceful movements of the arms and legs, accompanied by singing, the whole based upon the ancient Greek gymnastic dances and games *en masse*. Each lady knew her place perfectly at every given moment; variously shaped crosses and other figures were formed by the ladies being divided into smaller groups, each group going through a series of most graceful evolutions. It was a most interesting and agreeable sight. The song sung was the well known "Was soll es doch bedeuten." A daughter of Mommsen the celebrated historian, and a

daughter of Dr. Euler were members of the class. All these ladies had very frequently both written and told him how very much their health had improved since studying under him.

This course is quite private, and in previous years was given gratuitously to all; but now those who can, pay him 30 marks for the six months. This includes a large number of lessons, because according to circumstances he gives two or three lessons per week, each of two or more hours' duration. His object has been to promote female Physical Education, and he has usually had some 40 to 50 pupils each year. At the end of the six months' course an examination is held, and those who pass are arranged in three or four classes, according to the merit displayed. A very large proportion are well placed. Dr. Euler recommends as a handbook "Schettler's Turnschule für Mädchen." The exceptional increase to upwards of 100 this year is due to the Berlin Town Council having decided, some six months ago, that all girls in the town schools should in time receive instruction in gymnastics. All the ladies were "diplomée," and were actually teaching either in public or private schools. I could only find fault with the extremely high-heeled boots and shoes of very many, which made it very difficult for them to stand steadily on one foot.

There is a *Municipal Institution for Training Teachers of Gymnastics* in the Prinzen-strasse. I was present when the Director, Dr. Angerstein, directed the exercises of a recently formed class of some 40 parish schoolmistresses. Here also the greatest attention was paid by everyone. These ladies have the benefit of a magnificent gymnasium. They have about six hours' instruction per week, pretty well divided between theory and practice. Dr. Angerstein, who is a graduate in medicine of the Berlin University, informed me that the great obstacle to the general introduction of female Physical Education is the want of room, and that the money for new gymnasiums is not yet forthcoming. Up till six months ago (April 1877) attention had only been paid to boys' schools, and the gymnasiums already existing had



barely sufficed them, although employed all day long. He only required £100,000 to give proper Physical Education within a year to every girl in the Berlin Municipal Schools.

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I have now concluded my notes upon the several schools I visited during my tour of professional study in the most important towns of Central Europe. I returned with the conviction that the Germans and the French, the Belgians and the Italians are one and all alive to the importance of giving a good Physical Education to their boys and girls, and that everywhere good and enthusiastic men are advocating the equal right of all to that blessing; and that although some large towns were more advanced than others, all were trying to give greater facilities to ensure the manufacture of healthy minds in healthy bodies; and that it would be a shame if we English should find ourselves left far behind in the race for national health, by neglecting the Physical Education of our children.

BERNARD ROTH, F.R.C.S.

The official answers of the various Ministers of Public Education, and the preceding abstract of the report of Mr. B. Roth, will convince every impartial reader that, on the Continent, Physical Education and Hygiene form an important and obligatory branch of Education; that they are considerably more advanced than in Great Britain; and that physicians, doctors of philosophy, and other men of high scientific attainments, who are well known in the literary world, as Drs. Angerstein and Euler in Berlin, Dr. Hartelius in Stockholm, Dr. Klosz in Dresden, Dr. Jäger in Stuttgart, Dr. Wasmansdorf in Heidelberg, &c. &c., are at the head of the various institutions for training the teachers of Physical Education and Hygiene; while in England no such training institutions exist, and only persons ignorant of Scientific Physical Education are entrusted with the development of the physique of the growing generation.

## PRESENT STATE OF SCIENTIFIC PHYSICAL EDUCATION & HYGIENE IN ENGLAND.

AFTER the short review of the state of Physieal Education on the Continent and elsewhere, and after the abstraet of my Commissioner's Report on Physieal Education in Continental Schools, it is my painful duty to give an aeeount of the state of this important branch of education in Great Britain, where it is neglected by Parliament, by the Committee of the Privy Counciel on Education—or rather, the President and Viece-President of the Counciel, by learned soeieties, medieal and other eolleges, by all School Boards, Training Colleges, publie and private schools,—in faet, by all those whose duty it is to give a *thorough* education; an education including the harmonious development of all our bodily and mental faeulties.

I am ashamed to mention that an official answer to the questions I have addressed to the foreign Governments eannot be given by an English Minister of Publie Instruection, beeaue sueh an offee does not exist; while those who nominally take the offee of sueh a Minister are not even aequainted with the present state of Seientifie Physieal Education and Hygiene, whieh have hitherto had no *locus standi*, and the neglect of whieh has sueh serious results, as named in the ehapters of the degeneracy of the physique of the population and exeessive mortality (pages 17 to 23).

The offieial and non-offieial answers to the named questions are unhappily purely *negative*; although Lord Sandon, the late Viece-President of the Committee of Counciel on Education, told Parliament in 1875, “*the Government has done all that could be expected of them, by taking steps to substitute military drill for ordinary drill.*”

What is the meaning of these few words, whieh are in faet a publie acknowledgment of the ignorance of the Govern-

ment by one of their own members, as proved by the following analysis of the preceding sentences? We find—

1. That Government admits that ordinary drill (desk drill and school drill) is worth nothing, if considered as Physical Education.

2. That Government find it necessary, and have taken steps to substitute something better.

3. They have chosen *military drill*, considered by the Government as the *best* and *ne plus ultra* mode of Physical Education.

4. The high opinion entertained by the Educational Department of *military drill* has *no real basis*, as proved

5. By the military authorities having introduced for the last sixteen years a kind of systematised (although unscientific) Gymnastics and special model Gymnastics for the Army; because they found that military drill was in practice *not at all sufficient* for the physical development of the recruits and soldiers.

6. If military drill is, according to the military authorities, not sufficient for the soldiers, it is certainly *not sufficient for boys, still less for girls*.

7. Many medical and school authorities on the Continent, and Mr. Maclaren of Oxford and others, who have paid much attention to the subject, *almost unanimously object to military drill for little boys under the age of 13 or 14*.

“It is a mistake to suppose that military school drill will produce desirable results for the Army or Volunteer corps. If military school drill really possessed the virtues ascribed to it by some authorities (especially its English advocates), it would have been introduced long ago into the schools of Germany, where the whole male population must serve in the army.

“They consider it of greater importance that the youth should have gone through a thorough course of Gymnastics; for bodily strength, endurance, skill and address are qualities highly valued in the German Army, and cannot be acquired in a few weeks.

“In Switzerland, where cadet corps have existed for many



years, serious objections have been made by competent authorities on moral grounds, quite as much as on account of the uselessness of thus *playing at soldiers*.

“Persons believing that military drill is calculated to raise the physique of our boys, should repeat the experiment of Mr. Brooke, who divided the boys of the National School at Much-Wenlock into two sections: the height and girth of chest of each boy was measured; one section was placed under a drill-master, the other under a gymnast. After a few months the boys were again measured, and the height and girth of chest of the gymnasts far exceeded that of those who were drilled.”—RAVENSTEIN, *On Physical Education*.

8. It is generally admitted, without contradiction, that military drill is not suitable for girls; consequently, half of all school children are entirely to be neglected, although the health and physique of the girls (the future wives and mothers of the working men) is not only of the same, but even of greater importance than that of the boys.

9. But even military drill cannot be introduced, because, according to the answer of the Commander-in-Chief (see page 13), there are *not enough non-commissioned officers* for the instruction of the Army, consequently *none* to spare for elementary schools.

10. The Deputation of the Society of Arts publicly declared that there is no hope for the introduction of military drill in schools, if the Horse Guards do not take a special interest in the matter.

11. Even military drill has not been made obligatory in the Board and other schools, to which the Government contribute a part of the expense.

12. The Government do not pay for military drill.

13. After the Educational Law was passed, it was expected that Government would give to every child a *thorough* elementary education, including a physical, thus developing both body and mind; “*but except a few unscientific attempts at drill, absolutely nothing has been done for the Physical Education of the people of this country.*”—(See speech of a partizan of the present Government in the House of Commons, page 6.)

What right, then, had Lord Sandon to say "*that Government has done all that could be expected of them*"?

"All that the Government do is this: they recognise military drill, and allow time for it on the time-table, but *they pay nothing for it* directly, and it only counts as part of the good organization of a school, and therefore is taken into account only in settling the general efficiency or inefficiency of a school."—(Private communication from a member of the London School Board.)

The preceding analysis justifies the advocates of Scientific Physical Education in repeating emphatically that the steps taken by the Government are merely nominal, even regarding the introduction of the insufficient military drill. There is no minute of the Education Department known which insists even on this drill being an *obligatory* part of the school instruction; as it is not obligatory, it is not paid for; consequently there is no reason why the teacher, usually ignorant of the subject, should spend his time in learning and afterwards teaching it, especially as long as the present system of payment for results merely in reading, writing and arithmetic is kept up. The Government have therefore entirely failed in their duty of giving a thorough physical and mental education, to which every child is justly entitled; and even if these *steps* for substituting military for ordinary drill had been practically carried out, the physique of half the school children, namely, of all girls, would have been neglected.

On the state of Scientific Physical Education in private schools, I have only to add, that while on the Continent masters of the highest scientific attainments are employed, the drill-sergeant, the dancing mistress, the teacher of calisthenics and common gymnastics are here the persons who have the care of the bodily development of the growing generation entrusted to them; they are expected, without any preliminary education in the structure and functions of the human body, in hygiene, and in the theory of the exercises, by a merely mechanical drill or so-called calisthenic exercises, to produce that harmony of the various bodily and mental faculties which is the aim of a science of which they are

ignorant; their pupils are considered machines, made to imitate mechanically the exercises they are shown, and their mental faculties are not called into play.

In many schools cricket, foot-ball, athletics, gymnastics, and other games in the open air are considered sufficient substitutes for Physical Education—a belief based on false ideas of the scientific and harmonious development of the body. Lately, in a book on Exercise belonging to Hardwicke's series of books on School Hygiene, edited by well-known scientific men—*this error* of considering school games more useful than the scientific and harmonious physical and mental education is unhappily seriously advocated.

If these scientific editors would take the trouble of reading the works of Combe, Ling, Rothstein, the pamphlets on Physical Education and Hygiene by Jolly, Ravenstein, Dr. Schaible, and the author, they would soon be obliged to modify their views, and cease to propagate such injurious, erroneous, and unscientific theories.

THE POPULAR INSTRUCTION IN PRACTICAL HYGIENE in the elementary schools is almost entirely neglected; although school authorities believe that the present smattering of physiology, and some paragraphs contained in the little books on domestic economy, are sufficient substitutes for Hygiene. In connection with Physical Education, Hygiene must be taught as a complementary and indispensable branch of the former; the school must be made use of for imparting the knowledge of the laws of health in their practical application to the preservation of health in general, of the various parts and of the senses, to the necessity of fresh air, suitable food, cleanliness, suitable dress and exercise, of temperance, and in fact to all the influences upon which health depends, and by which it is injured. By choosing the human body and its single parts, as well as the functions of the body, as object lessons, an intelligent teacher will make the subject of health very interesting, even to children. The Hygienic part of Physical Education has, with some exceptions, made very little progress, even on the Continent; and everywhere much is still to be desired in this direction. Thus the



Hygiene of the senses includes the so-called Gymnastics of the senses.

The Physical Education of the senses comprises the development of the *sight* through appreciation of distance, gradations of light, gradations and comparisons of colours, angles and their sectors, geometrical forms in various magnitudes: of *the ear*, through discrimination and appreciation of sounds, their volume and intensity, and exercises in the relations of intervals, of chords, and measure in music; oral exercises for the mutation and discrimination of sounds, and classification of sounds of language: of *the touch*, through exercises in appreciation of weight, polish, softness or hardness, smoothness and irregularity of surface of various materials different in texture, composition, size and temperature; through exercises by holding an intermediate body like a stick or paper roll in the hand, in order to find out form and size indirectly: of *taste*, through sweet, bitter and acrid, and other liquid and solid substances: of *smell*, through exercise of the (olfactory) smelling nerves, through substances of various agreeable, disagreeable, vegetable, animal and mineral nature.

The physical development of taste and smell are also very important in a sanitary point of view, as it is almost a general rule (not without exception) that all that tastes and smells badly is injurious to the healthy human body.

The Physical Education of the *muscular* sense—the sense by which we are conscious of the construction and functions of our muscular system—belongs also to Physical Education. Those wiseacres who believe they can give separately a moral and intellectual education without attending to the body, forget that we have muscles which move the eye in all directions, and flatten and compress the eyeball according to the distance at which we look at an object; that it is by the aid of muscles that the organs of touch, smell and taste are enabled to act, and that our so-called advanced state of civilization is the cause that we have lost the power of moving many muscles.

The loss of sight, touch, hearing, taste, smell and move-

ment is in progressive proportion to the diminished development and exercise of these faculties; proofs of this can be observed in slightly paralyzed persons, whose loss of power under equal conditions and circumstances increases when their weakened parts are left too much at rest, while exercise and repeated use of their weakened faculties invigorate and strengthen them. Nerves and muscles are in this respect very analogous. If a slightly deaf person does not try to listen and to hear, he will soon be more deaf; while an impaired sense of touch will be still more blunt, if no endeavour is made to exercise this sense by touching various objects. The power of all physical faculties diminishes or increases, according to the rest or exercise afforded them.

How ignorant the public is in matters of health, is daily seen and proved by the numerous advertisements of manufacturers of hair-restoring ointments; of quack medicines; of lentil meal, which, under the name of *Revalenta Arabica*, as we are told, not only cures, but prevents all diseases; of magnetic and electric contrivances, of which the wonderful curative powers in all diseases are extolled; thus the public pays for its hygienic ignorance, not only hundreds of thousands of pounds for these advertisements, but also similar and even larger sums for the ointments, pills, medicines, and various contrivances, which more frequently aggravate the evil which they should either relieve or prevent.

There is no doubt that the daily and periodical Press, with the influential power it yields, contributes through these advertisements to the preservation of prejudice and ignorance among all those who are unacquainted with the practical knowledge of preserving health.

As long as the leading journals consent to fill whole columns with advertisements of quack medicines and similar means, the curative power of which is constantly certified so many thousand times in the daily papers, there is only one remedy to counteract the injurious and expensive effects of such advertisements, namely, to teach the children in school what is good and what is bad for their body and health.

What are we to answer to the objections of those who say,

What will the pill and ointment manufacturers, the chiropodists, the tight boot, shoe- and tight- corset- and stay-makers and spinal support manufacturers, what will the Chancery of the Exchequer and the medical profession do, if you teach children the bad effects of spirituous liquors and tobacco, of tight dresses, of high heels, of bad air, of bad food, and of all other injurious influences which make people weak, ill and deformed? Will the newspaper proprietors like losing their advertising customers?

There is no doubt that certain classes, as well as the Chancery of the Exchequer, will lose when the general introduction of Physical Education and Hygiene shall manifest its beneficial results; but are we to encourage the abuse of spirits and tobacco, and are we to permit the degeneration of the physique still further to progress, for the sole purpose of increasing the revenue and of preserving the so-called *vested* interests of certain classes?—an investment based on the weakness, sickness, illness and deformity of a still more numerous class.

“England cannot for her own credit, not to say her advantage, remain much longer in the miserable company of the least enlightened, worst educated, and least progressive countries of Europe in this matter of national health and well-being.

“Ambition itself should prompt us to efforts to prevent our being ignobly beaten by other nations in matters of national advantage.”—(JOLLY.)

#### ADVANTAGES OF THE GENERAL INTRODUCTION OF PHYSICAL EDUCATION AND HYGIENE.

The following is by a French author:—

“The great success of the Germans during the French war is partly to be attributed to their power of resistance to fatigue, to the rapidity of their marching, to their individual vigilance—that is, to a combination of qualities in which the French once excelled, but in which now the Germans surpass



us ;—the same Germans whose stiffness and clumsiness were previously proverbial.”—(DALLY.)

According to a General Order of 6th July, 1871, the Prussians believe that their scientific physical training is one of the most important factors in gaining their victories in the wars against Austria and France. “The extraordinary qualities of which our armies have given proof in the last war, their indefatigable vigour in marching, the agility with which in a hostile country they have overcome all natural and artificial impediments, their courage and (*coolness*) presence of mind, their constancy in supporting privations and suffering, must be ascribed in a great measure to the gymnastic instruction of the soldiers, first in all schools and later at their respective regiments.”

A well-known Prussian general said: “We have not vanquished the Austrians ; we have only *out-marched* them.”

#### SPECIAL ADVANTAGES.

1. An arrest of the progressive degeneracy of the population, proofs of which have been given (see pages 17—24).

2. Diminution of the excessive infant and general mortality.

3. Diminution of scrofulous, consumptive and other diseases, of spinal and other deformities.

4. Increased value of more productive work performed.

5. Increase of the defensive power of the country. “According to the ancient constitution of the realm, every Englishman was liable to home defence of his country.”—(Lord ELCHO.)

6. Considerable saving of the expenses of military training.

7. Shorter periods of time and less labour required for training recruits for the Army and boys for the Navy.

8. Smaller amount of rejections of recruits and boys.

9. Instead of hunting through the public-houses for men, and bribing sergeants and “bringers” to corrupt and deceive, the men would come forward and try to get into the Army as they do into other employments.—(Sir CHAS. TREVELYAN.)

10. Diminution of poor-rates, police-rates, and the expenses

of criminal machinery in proportion to the larger number of able-bodied inhabitants of a district, because ill-health and disease cause poverty, misery, and crime.

11. Finally, the number of healthy, strong, and beautiful mothers will be increased; they will know how to take care of and manage their children, and pay attention to sanitary laws in their household, and not rely on the official inspector of health.

12. The average of life in all classes will be prolonged, joy and happiness will be more general, and in case of need the whole male population from the age of 20 to 40 will be ready for the defence of the country, and form a reserve for the Army.

13. A German author, Dr. Werner, illustrates the influence of Physical Education on the moral and intellectual development in the following succession of causes and effects:—

Health of the body—	Cheerfulness of mind.
Hardening of the body—	Manliness of mind.
Strength and skill—	Presence of mind—courage.
Activity of body—	Activity of mind.
Fair development of body—	Beauty of soul.
Acuteness of the senses—	Strength of the thinking faculty.

#### SUGGESTIONS FOR THE PRACTICAL INTRODUCTION OF PHYSICAL EDUCATION AND HYGIENE.

As the present Vice-President of the Committee of Privy Council on Education has lately proved his interest in the better instruction of singing (see Introduction i. ii.), which is merely a part of Physical Education, it is reasonably to be expected that he will take still more interest in improving the present bad and deficient state of Physical Education and Hygiene, which if not more important, is at any rate as important as singing; *a statement the truth of which cannot be denied by anybody.*

I suggest that—

1. These branches of Education should be *compulsory*.
2. The teachers should be paid for the extra work in the same proportion as for reading, writing and arithmetic.

3. The pupil teachers, schoolmasters and mistresses, should be trained in Training Schools in the elements of Sanitary Knowledge and Physical Education, in which they should not only pass a theoretical examination, but prove their proficiency for teaching these branches practically.

4. Teachers who are already practically employed, should have an opportunity during a limited time (say, during the holidays) to go through a supplementary course of instruction, to enable them to teach their pupils at least the rudiments of the knowledge.

5. For some time *unattached* teachers of Physical Education should go to the various school districts, to give theoretical and practical instruction to such teachers as are unable to leave their schools even for a limited period.

6. In all schools a minimum of Sanitary Knowledge and Physical Education should form the standard according to which the teachers should be paid.

7. *Elementary* books on Sanitary Knowledge and Physical Education, approved by the Council of Education, to be used.

8. A NATIONAL CENTRAL INSTITUTION FOR PHYSICAL EDUCATION AND HYGIENE should be established, on the model of that institution in Sweden—which was established in 1813, and is probably the best—or of that in Berlin.

Only *certificated* schoolmasters and mistresses are to be admitted, who should go through a special course of instruction in the elements of Anatomy, Physiology, Hygiene (in their relation to Physical Education), and theory and practice of bodily exercises; after passing an examination they would obtain a certificate as special teachers of Physical Education and Hygiene. Officers of the Army and Navy might be also admitted to these courses, as in Sweden and Prussia.

These special teachers of Physical Education could be employed as *unattached* teachers to give the supplementary courses named (Suggestions 4 and 5); while the military and naval officers could, when certified, begin similar courses in naval and military schools, in their regiments and ships.



9. From my personal experience of the few voluntary courses I have given to intelligent schoolmistresses, twenty-five lessons of one hour and a half, given by certified and *unattached* teachers, would be sufficient for the supplementary course in the *elements* of Physical Education and Hygiene.

10. During the holidays, teachers from the country could be invited to come to the large towns and to attend to these supplementary courses.

11. The expenses of these country teachers should be paid to those teachers who pass their examination.

12. After having passed their examination, the teachers should be obliged to make Physical Education an integral part of the course of instruction, for which they are to be paid in proportion to the time spent on it, or according to the results of examination in the various standards of Physical Education and Hygiene, which, like the other subjects of instruction, will be required.

13. According to my humble opinion, the future schoolmistresses in all Training Colleges should also be practically instructed in the management of babies and infants; for which purpose A MODEL NURSERY, for six to twelve orphan babies and infants, should be attached to each College, under the superintendence of an educated and well-trained nurse; every pupil teacher could thus learn how to feed, dress, wash and manage a baby in order to keep it well and strong. The general ignorance of mothers in all classes of society, of nurses, of nursery governesses, regarding the first Physical Education of a baby and infant, is *the* cause of the great infant mortality, to which no doubt *neglect* contributes very much.

14. The importance of SWIMMING for all school children of both sexes is not yet sufficiently appreciated. All School Boards of large towns should take the matter of swimming baths in hand as a part of Physical Education. The ratepayer would soon find out that every penny well employed by a School Board, saves twopence in poor and police rates, and in the expense for medical attendance and chemists' bills.

15. My last suggestion is the appointment of MEDICAL

INSPECTORS OF SCHOOLS, to prevent the large class of school diseases, which are partly imparted and spread by infection, partly caused by unsuitable school arrangements.

In Dr. Virchow's report (mentioned in the answers of the Prussian Minister of Occupation to my Question 14, see page 30), he insists upon the introduction of medical science into the management of schools, and closes thus: "Only through the joint labours of school men and medical men perfectly acquainted with the subject, will the State and Community obtain a suitable organization for school supervision, which shall be capable of reaching a solution of that great problem of the times—the physical and intellectual health and development of coming generations."

Paris provides Medical Inspectors for her Primary Schools.

The city of Elmira, N.Y., United States of America, has a Medical Inspector of Schools.

On the Continent there are only occasionally Medical Inspectors of Schools appointed.

From a Report on a *Hearing on the Appointment of a Medical Inspector for the Public Schools* at Boston, the following are taken:—

"Of what use is it that our schools develop the intellect, if, at the same time, their methods or defects induce partial blindness, and crooked spines, or expose their pupils to the liability of blood-poisoning from foul air, or contracting of dangerous if not fatal disease from imperfect sanitary regulations."—(Dr. BLAKE.)

"The selection of the sites for schoolhouses, the preparation of the grounds, drains, water-supply, water-closets, size of rooms, heating and ventilation, desks and seats, the care of the eyes and ears, influences affecting the nervous system and the organs of the pelvic cavity, contagious diseases, gymnastics, &c., should be under medical inspection."—(Mr. BARNARD.)

"The more perfect a school system is rendered in other respects,—the more regular the attendance, and the higher the standard of scholarship,—the more need there is of devoting attention to school hygiene. If we would work the

brain to the best advantage, we *must* see that the requisite physical conditions are secured.

“Here are fifty thousand children in school, every one of whom would probably be benefited directly. And this benefit would be twofold: in the first place, the pupils would leave school with a better average standard of health; and, in the second place, while in school they would be enabled to accomplish more mental work; that is, with a given outlay, the intellectual results would be better. Then the labours of this officer would benefit the pupils indirectly through the teachers. Not only would the pupils be enabled to do more and better work, with less injury to health, but the teachers would be enabled to do more and better work for the pupils, with less wear and tear to their physical systems. And it is to be remembered, that it is not a question as to the increase of the efficiency of a score or two of teachers, but of more than twelve hundred. Finally, consider the vast sum of money that Boston annually expends in the support of public schools, and reflect that a very considerable percentage of this amount fails to be utilized for want of the requisite knowledge and application of hygienic science, which a competent medical officer, devoted solely to this interest, would not fail to supply. And how small a proportion of the whole expenditure for schools this realization of the measure would require! Our efforts have been too exclusively devoted to intellectual education. It is to be hoped that we may now do more for physical education.”—MR. PHILBRICK.

“It is important to clearly understand that *our School Boards have hitherto failed to appreciate that the care of the body should go hand in hand with the education of the mind*; the tendency being to leave the schools practically unprotected and unguarded as respects these insanitary influences, and to complacently sanction, by their inaction, the dissemination of much disease that might have been prevented by the adoption of appropriate restrictive measures.

“In matters of sanitary reform, the judicious expenditure of a very little money may lead to the accomplishment of an incalculable amount of good. Such action will be welcomed



by sanitarians as a recognition of the principle that no education can be complete which does not aim at the harmonious development of both body and mind."—Dr. NICHOLS.

The result of the Hearing was that a physician was appointed by the Department of Public Instruction, at a salary of three thousand dollars, besides the extra expenses.

"1. He is expected to devote his entire time to the duties of this office.

"2. He shall take cognizance of the interests of health among the teachers and children of the public schools.

"3. He shall make sanitary investigations in respect to schoolhouses and grounds, and to all circumstances connected with the management and instruction of schools, which may appear to influence the health of scholars or teachers.

"4. He shall make himself acquainted with the means employed in other States for preserving the health of the inmates of schools.

"5. He shall seek to trace the origin and mode of extension of epidemic or other diseases among inmates of schools, and to point out measures for the arrest or prevention of such diseases.

"6. He shall from time to time inform the Department of Public Instruction of the results of the aforesaid investigations, and shall suggest to the said department such modifications of the system of instruction and management existing in the schools of this State as in his opinion would conduce to the improvement of the health of teachers and scholars.

"7. He shall further, in the month of January of every year, present to the Department of Public Instruction a written report of his doings and investigations in the line of his duty, as aforesaid, for the year ending with the 31st of December next preceding.

"8. He shall gather, and from time to time shall present to the department, such information in respect to the interests of the public schools as he may deem proper for diffusion among the people."

The opponents to the appointment of a special Medical

Inspector of Schools, will probably be converted to be advocates of such an appointment after reading the full Report of the Boston Hearing.

It is desirable to introduce in the beginning merely the *elements* of Physical Education, which consist of two principal parts :—\*

The first part is, *not to interfere* with the natural development of the body, as is unfortunately only too frequently done, either by want of proper ventilation, temperature, and cleanliness, bad light, small-printed books, bad positions while writing, in schools, by forms without backs, by improper food, drink, by tight clothing, high heels, &c. It is for this reason that the teacher should have some elementary and practical knowledge of preserving health, “which depends upon careful attention to small things, and which should be taught as part of common Elementary Education.” —(*Registrar-General.*)

The second part consists in the practical development of all parts of the body by a scientific system of FREE EXERCISES, to be used from the age at which the child enters the school.

These exercises form a science which “aims at a harmonious development of mind and body, which considers man as an inseparable unity, and does not admit partial development of the body, or of its single parts, without a harmonious development of the mind.”—(LING.)

### THE ADVANTAGES OF FREE EXERCISES.†

1. They are executed without the help of any apparatus, the expense of which is saved.

\* Those who are more interested in this subject will find my ideas more developed in a lecture, entitled “Physical Training and Rational Gymnastics,” delivered at the Royal United Service Institution, and published in their *Journal*, vol. vii.

† These advantages have been enumerated by Ling; since his time, Spiesz (in Darmstadt), Dr. Jäger (in Stuttgart), Dr. Klosz (in Dresden), and others have considerably increased the system of Free Exercises, which was also much used in ancient Greece.

2. Free Exercises can be made as simple as the scales in music.

3. The movements being very simple, are easily understood, as well as easily performed.

4. They can be executed at the same time by a great number of pupils, thus much time is saved.

5. The free movements can be executed in any place, as well in the open air as in-doors; in any schoolroom these exercises can be executed.

6. As every motion of a Free Exercise is to be observed exactly, and to be executed, if there are several pupils, at the same time, all must accustom themselves to a certain attention and precision, by which means the sense of order is developed, and the attention excited.

7. The free movements produce an agreeable feeling in the actions of the body.

8. They promote, more than the movements on machines, a good posture of the body, and an appropriate appearance and deportment in ordinary life.

9. In the more advanced Free Exercises, in which support is used, such support is a living one, effected by a mutual apposition of the hands, arms, legs, &c., of the pupils performing the exercises, and the substitution of a *living* support for apparatus has the following advantages:—

10. They allow the specific application of actions, either for the sake of increasing the general strength, or that of a particular part.

11. They develop and improve the sense for definite and exact movement.

12. They effect a farther development of the sense of equilibrium.

13. By giving a nice perception of movement in our own limbs, they give the same nicety with regard to the movement of the limbs of others, and to the power exerted by them.

14. By the various multiform apposition of the hands, done in a quick, prompt, clever way, the pupil is accustomed to sharp and ready action, and to afford prompt and ready assistance to others.



15. These exercises teach us how to apply our strength and direct our movements in concert with others, for one and the same purpose.

16. The harmonious development of body and mind may be attained by Free Exercises alone, which do not make gymnastics depend on the possibility of having expensive apparatus.

#### FURTHER ADVANTAGES OF THESE EXERCISES.

1. *These Exercises are also very useful for the Physical Education of the Deaf and Dumb, and of the Blind.* The latter are very easily instructed in these simple exercises by the help of models I have prepared for the purpose.

2. Half-an-hour daily will be *sufficient*; at the end of the first and the beginning of the second school hour ten to fifteen minutes can easily be spared.

3. They do not interfere with the other school work; but, on the contrary, the children are more attentive at their lessons.

4. They are beneficial and requisite both for the teachers and pupils.

5. They can be, and are used by intelligent teachers as object lessons, and for the purpose of mental instruction, to teach the various parts of the body, and how they are to be used. The various positions and movements assist the teaching of horizontal, vertical, circular, and elliptic lines as much as the various geometrical forms, &c.

6. The sense for form, beauty, and symmetry is more developed, and, consequently, taste for art and art culture promoted.

7. The use of these exercises converts the recruit more rapidly into the trained soldier than any other drill.

8. These exercises form the basis of military and æsthetic Gymnastics, and are also used for curative purposes.

9. As exercises for a single individual they cause a *free*, easy action (mobility) of each single part, and enable him, as far as possible, to carry out, with his body and limbs, the command of his will.

10. Free Exercises, carried out simultaneously by a large number, teach the single individual that he has to submit himself to the orders of a larger body; that he is a necessary part of a whole; and that the fault of one person deranges the whole body (corps); that the systematic co-operation of the larger number is required as well as of each individual, so as to carry out and obtain what is desired. Thus the pupil is taught by the various exercises, and the different modes of their execution, what he requires as a member of a larger community, viz., to act and work alone and independently, or to co-operate with, or submit himself to a larger number.

11. Free Exercises equally stimulate to healthy action all the parts of the body; the circulation is free and vigorous; all the functions are performed with proper activity and regularity, and the normal health is maintained.

In advocating merely the Free Exercises, it is not my intention to exclude or to consider superfluous the exercises on apparatus; but the introduction of the latter, which is more expensive on account of the various apparatus required, can be reserved to the time when Free Exercises shall have formed an obligatory part of national education in all elementary and secondary schools.

### CONCLUSION.

Having tried to show the serious consequences to life and pocket of the *neglect*, and the great advantages to the State and every individual resulting from the introduction of Scientific Physical Education and Hygiene, we must look to Parliament for the necessary grant, to enable the Vice-President of the Committee of Privy Council on Education to do his duty.

If Parliament should refuse the grant, every individual member of the House of Commons may be considered as having the intention and will of preserving the excessive general and infant mortality and progressive degeneration of the physique of the population, the large amount of defor-

mities, mental and other diseases, and the great monetary loss pointed out by the Registrar-General.

#### IMPORTANT NOTICE.

I am happy to be able to mention that the School Board of London (whom I had last year denounced for having proposed a scheme of studies for their pupil teachers which did include neither Scientific Physical Education nor Hygiene) have been the first of all School Boards in England in appointing lately a perfectly competent Lady Superintendent of Physical Education, whose first duty will be to give courses to the female School Board teachers in the theory and practice of Physical Education, in order to enable them to give a similar instruction to their pupils. These courses are those which I have suggested, sub. 5, on page 77.

There is no doubt that this first step in the right direction will soon be followed by a similar scientific instruction in the boys' school as a substitute for the present desk, school, and military drill.

It is due to Mrs. Westlake, the member of the School Board for Marylebone, to have this subject first brought before the Board; who, without any opposition, have in the interest of all school children, as well as of the ratepayers, at once taken this important step, which in the near future will cause a diminution of poor and hospital rates.

It is my pleasant duty to mention that not less than 600 schoolmistresses have shewn their interest in Physical Education and Hygiene by applying for permission to share in the instruction. I hope this fact will also contribute to stir up the Lords Commissioners of the Committee of Privy Council on Education to hasten the establishment of a Central National Institution for Physical Education and Hygiene.



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Prize Medals have been awarded at the International Exhibitions of London in 1862, and Paris, 1867, for Dr. Roth's Works on Physical Education, Models, &c.

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